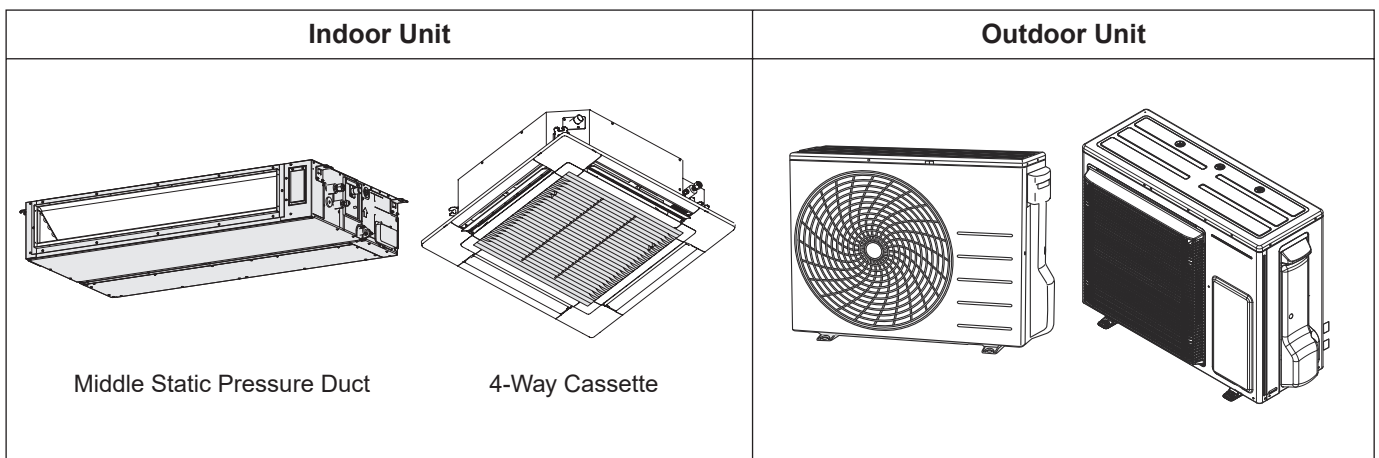


## TECHNICAL DATA & SERVICE MANUAL



### ■ R32 Models

#### Model No.

#### Indoor Units

Type	Indoor Units Type	36	50	60	71
U3	4-Way Cassette	S-3650PU3E		S-6071PU3E	
F3	Middle Static Pressure Duct	S-3650PF3E		S-6071PF3E	

#### Outdoor Units

Type	Outdoor Units Type	36	50	60	71
PZ3	Single Split (1-phase)	U-36PZ3E5	U-50PZ3E5	U-60PZ3E5	U-71PZ3E5

## IMPORTANT! Please Read Before Starting

This air conditioner must be installed by the sales dealer or installer.

This information is provided for use only by authorized persons.

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

- This Installation Instructions is for the indoor unit and read the Installation Instructions of the outdoor unit as well.
- Carefully read this instruction booklet before beginning.
- This air conditioner is required to have the remote controller which is adaptable to nanoe™X function.
- Follow each installation or repair step exactly as shown.
- This air conditioner shall be installed in accordance with National Wiring Regulations.
- That compliance with national gas regulations shall be observed.
- The product meets the technical requirements of EN/IEC 61000-3-3.
- 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.



### WARNING

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
- Auxiliary devices which may be a **potential ignition source** shall not be installed in the duct work. Examples of such **potential ignition sources** are hot surfaces with a temperature exceeding 700°C and electric switching devices.

- For appliances connected via an air duct system to one or more rooms, only auxiliary devices approved by the appliance manufacturer or declared suitable with the refrigerant shall be installed in connecting ductwork.
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odour.
- The following checks shall be applied to installations using flammable refrigerants. Appliance shall be installed, operated and stored in a room with a floor area larger than [Amin] m<sup>2</sup>. As for [Amin], see the section "CHECK OF DENSITY LIMIT".

## 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 see the wiring diagram and section 2 when wiring. Improper connections and inadequate grounding can cause **accidental injury or death**.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.
- Provide a power outlet to be used exclusively for each unit.
- Provide a power outlet exclusively for each unit, and full disconnection means having a contact separation by 3 mm in all poles must be incorporated in the fixed wiring in accordance with the wiring rules.
- To prevent possible hazards from insulation failure, the unit must be grounded.



- Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.
- 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

- It need two or more people to carry may out the installation work.
- Be when picking up and moving careful 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 storing...

#### **WARNING**

- The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- The appliance shall be stored in a room without continuously operating open flames (for example: an operating gas appliance) and ignition sources (for example: an operating electric heater).
- The appliance shall be stored so as to prevent mechanical damage from occurring.

### 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 cases that require mechanical ventilation, ventilation openings shall be kept clear of obstruction.
- An unventilated area where the appliance using flammable refrigerants is installed shall be so constructed that should any refrigerant leak, it will not stagnate so as to create a fire or explosion hazard.

### (Type F3)

- Ducts connected to an appliance shall not contain a **potential ignition source**;
- For appliances connected via an air duct system to one or more rooms, the supply and return air shall be directly ducted to the space.

#### ...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 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.

### (Type U3)

#### ...At least 2.2m

Indoor unit of this air conditioner shall be installed in a height of at least 2.2 m.

#### (Type F3 (horizontal installation))

#### ...At least 1.8m

Indoor unit of this air conditioner shall be installed in a height of at least 1.8 m.

#### ...In laundry rooms

Do not install in laundry rooms. Indoor unit is not drip proof.

### When Connecting Refrigerant Tubing

Pay particular attention to refrigerant leakages.



## WARNING

- When performing piping work, do not mix air except for specified refrigerant (R32) 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.
- 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.
- Use the flare method for connecting tubing.
- 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.
- 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.
- Under no circumstances shall potential sources of ignition be used in the searching or detection of refrigerant leaks.
- A halide torch (or any other detector using a naked flame) shall not be used.
- Electronic leak detectors may be used to detect refrigerant leaks but, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.)
- Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.
- Leak detection equipment shall be set at a percentage of the lower flammable limit (LFL) of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed.
- Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.
- If a leak is suspected, all naked flames shall be removed/extinguished.
- If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

## When Servicing

- Contact to the sales dealer or service dealer for a repair.
- Be sure to turn off the power before servicing.
- Turn the power OFF at the main power box (mains), wait at least 10 minutes until it is discharged, then open 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 and disposal.



## CAUTION

- 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

When disposal of the product, do follow the precautions in "11. Recovery" on page 1-11-2-1-6 and comply with national regulations.



## 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.



## SERVICING

### CAUTION

- Any qualified person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognised assessment specification.
  - Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
  - Servicing shall be performed only as recommended by the manufacturer.
  - Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, (2) to (6) shall be completed prior to conducting work on the system.
- (1) Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.
  - (2) All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.
  - (3) The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
  - (4) If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO<sub>2</sub> fire extinguisher adjacent to the charging area.
  - (5) No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.
  - (6) Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
  - (7) Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.
    - The actual refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed.
    - The ventilation machinery and outlets are operating adequately and are not obstructed.

- Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected.
  - Refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.
- (8) Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised. Initial safety checks shall include:
- That capacitors are discharged. This shall be done in a safe manner to avoid possibility of sparking.
  - That no live electrical components and wiring are exposed while charging, recovering or purging the system.
  - That there is continuity of earth bonding.
- During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc.
  - Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
  - Ensure that apparatus is mounted securely.
  - Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres.
  - Replacement parts shall be in accordance with the manufacturer's specifications.

**NOTE:**

The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
- Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere.
- The test apparatus shall be at the correct rating.
- Replace components only with parts specified by the manufacturer. Unspecified parts by manufacturer may result ignition of refrigerant in the atmosphere from a leak.

## REMOVAL AND EVACUATION

### CAUTION

- When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, it is important that best practice is followed since flammability is a consideration.  
The following procedure shall be adhered to:
  - Remove refrigerant.
  - Purge the circuit with inert gas.
  - Evacuate.
  - Purge again with inert gas.
  - Open the circuit by cutting or brazing.
- The refrigerant charge shall be recovered into the correct recovery cylinders.
- The system shall be “flushed” with Oxygen free nitrogen (OFN) to render the unit safe.
- This process may need to be repeated several times.
- Compressed air or oxygen shall not be used for this task.
- Flushing shall be achieved by breaking the vacuum in the system with Oxygen free nitrogen (OFN) and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum.
- This process shall be repeated until no refrigerant is within the system.
- When the final Oxygen free nitrogen (OFN) charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.
- This operation is absolutely vital if brazing operations on the pipe work are to take place.
- Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and there is ventilation available.

## CHARGING PROCEDURES

### NOTE:

Refer to the Installation Instructions attached to the outdoor unit.

## DECOMMISSIONING

### CAUTION

- Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its details.
- It is recommended good practice that all refrigerants are recovered safely.
- Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant.
- It is essential that electrical power is available before the task is commenced.
  - a) Become familiar with the equipment and its operation.
  - b) Isolate system electrically.
  - c) Before attempting the procedure ensure that:
    - Mechanical handling equipment is available, if required, for handling refrigerant cylinders.
    - All personal protective equipment is available and being used correctly.
    - The recovery process is supervised at all times by a competent person.



- Recovery equipment and cylinders conform to the appropriate standards.
- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with instructions.
- h) Do not overfill cylinders. (No more than 80 % volume liquid charge).
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another refrigerating system unless it has been cleaned and checked.
- Electrostatic charge may accumulate and create a hazardous condition when charging or discharging the refrigerant.  
To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before charging / discharging.

## **RECOVERY**

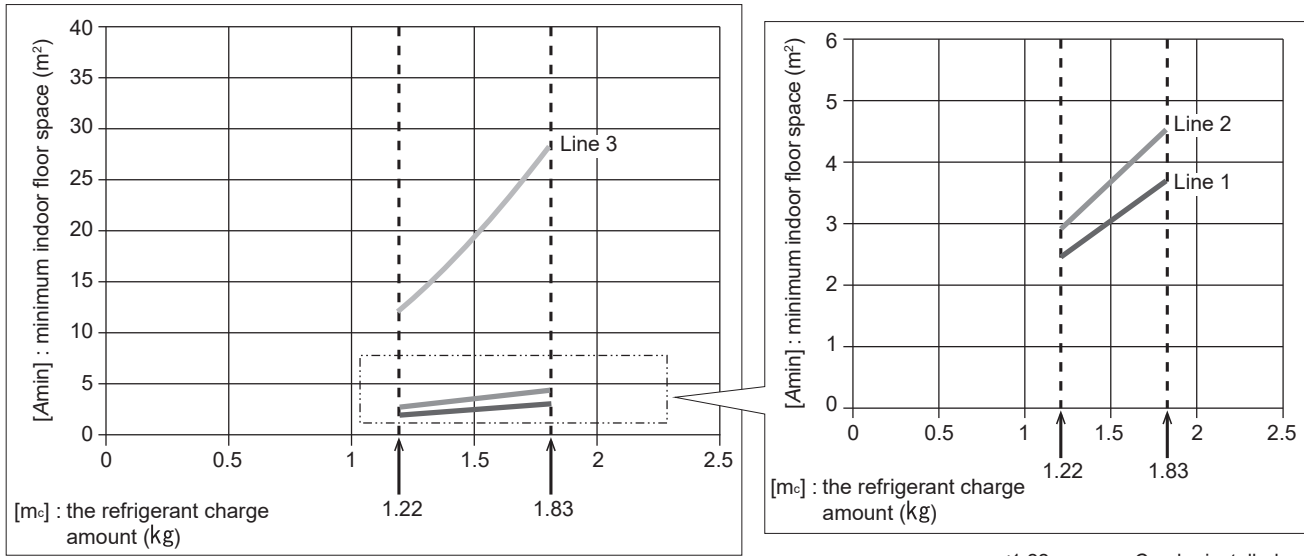
### **NOTE:**

See the Installation Instructions attached to the outdoor unit.

# Check of Density Limit

## 1. Outdoor

The refrigerant (R32), which is used in the air conditioner, is a flammable refrigerant. So the requirements for installation space of appliance are determined according to the refrigerant charge amount ( $m_c$ ) used in the appliance. The minimum indoor floor space compared with the amount of refrigerant is roughly as follows:



Installation height of Indoor Unit: hinst	Indoor Unit Type	Density Limit Line
$hinst \geq 2.2 \text{ m}$	4-Way Cassette Low Silhouette Ducted	Line 1
$1.8 \text{ m} \leq hinst < 2.2 \text{ m}$	Low Silhouette Ducted	Line 2
$hinst < 1.8 \text{ m}$	Low Silhouette Ducted	Line 3

$m_c \leq 1.22$  : Can be installed  
 $1.22 < m_c \leq m_{max}$  : Can be installed above "Density Limit Line" \*1  
 \*1 See "Density Limit Line" in Table 1-11-2-1-1 and Fig. 1-11-2-1-1, Fig. 1-11-2-1-2 of indoor unit.  
 $m_c > m_{max}$  : Cannot be installed

	U-36PZ3E5	U-50PZ3E5	U-60PZ3E5	U-71PZ3E5
$m_{max}$ (kg)	0.95	1.33	1.49	1.83

$m_c$  : The refrigerant charge amount (Total of refrigerant at shipment and refrigerant charge amount in the field).  
 • Please calculate  $m_c$  according to piping length in the field as shown in the calculation example below.  
 < Calculating example > • Refer to table "Specification for pipe connecting indoor unit to outdoor unit".  
 (conditions : U-71PZ3E5 Total pipe length = 40 m)

$$m_c = 1 + 2 = 1 + (3 * (4 - 5)) = 1.32 \text{ kg} + (0.017 \text{ kg} * (40 \text{ m} - 10 \text{ m})) = 1.83 \text{ kg}$$

1 : Refrigerant charged at shipment    2 : Refrigerant charge amount in the field    3 : Additional charge per 1m  
 4 : Total pipe length    5 : Charge-less pipe length(max.)

• If the total piping length is within the maximum value of the charge-less piping length, refrigerant charge in the field is unnecessary.

$m_{max}$  : The maximum refrigerant charge amount

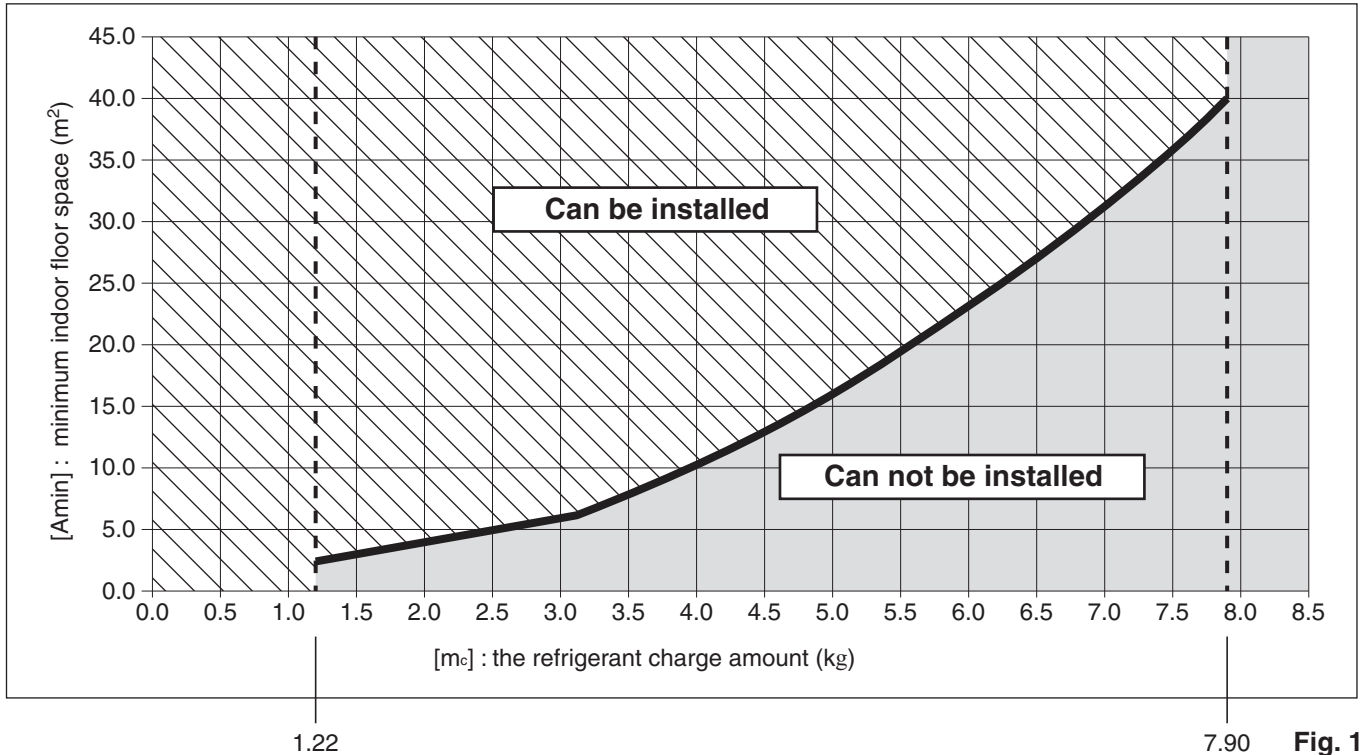
**2. Indoor**

**2-1. Type U3**

The refrigerant (R32), which is used in the air conditioner, is a flammable refrigerant. So the requirements for installation space of appliance are determined according to the refrigerant charge amount [ $m_c$ ] used in the appliance.

Regarding the refrigerant charge amount [ $m_c$ ] used in the appliance, refer to the installation instructions for the outdoor unit.

The minimum indoor floor space compared with the amount of refrigerant is roughly as follows:



[ $m_c$ ] : The refrigerant charge amount (kg) (Total of refrigerant at shipment and refrigerant charge amount in the field).

[ $A_{min}$ ] : Minimum indoor floor space ( $m^2$ )

[ $m_c$ ]	[ $A_{min}$ ]
1.22	2.5
1.3	2.6
1.4	2.8
1.5	3.0
1.6	3.2
1.7	3.4
1.8	3.6

**2-2. Type F3**

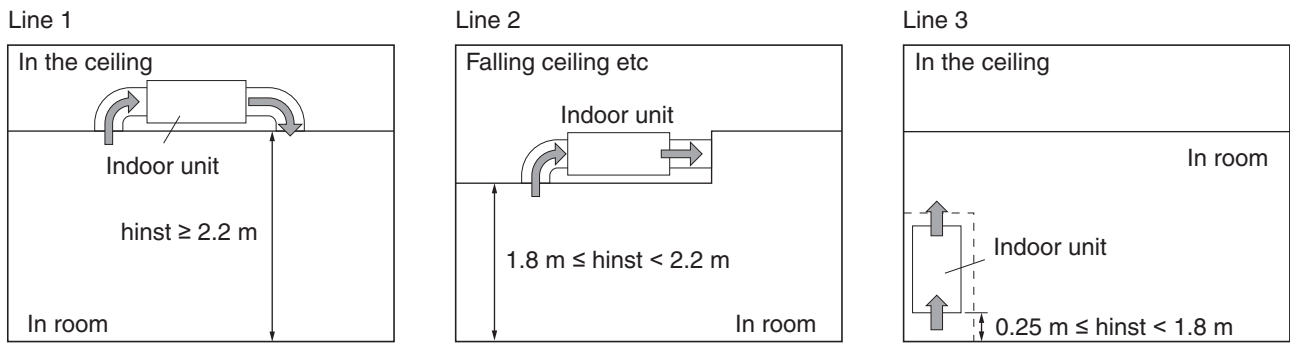
The refrigerant (R32), which is used in the air conditioner, is a flammable refrigerant. So the requirements for installation space of appliance are determined according to the refrigerant charge amount [ $m_c$ ] used in the appliance.

Regarding the refrigerant charge amount [ $m_c$ ] used in the appliance, refer to the installation instructions for the outdoor unit.

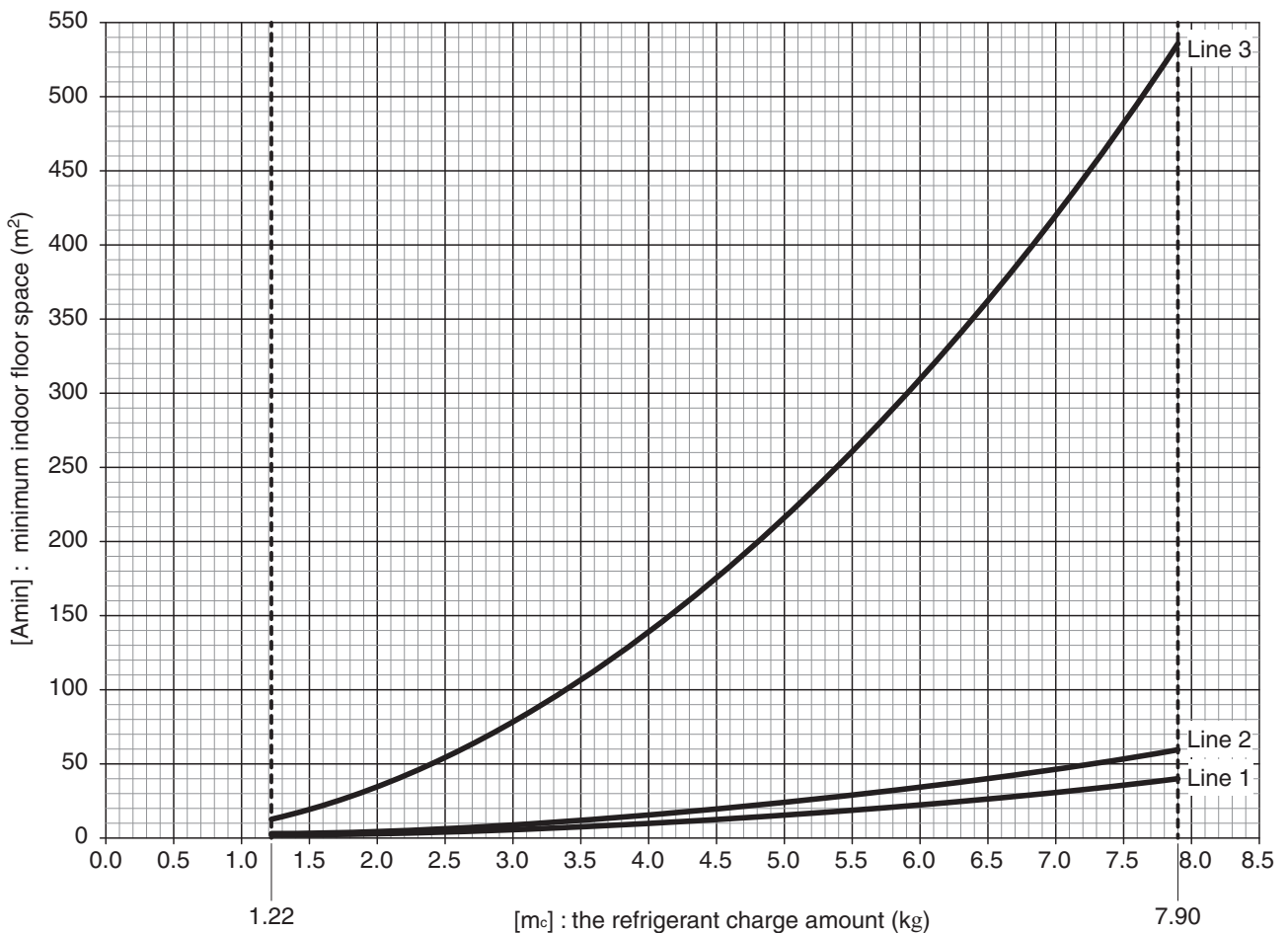
The minimum indoor floor space compared with the amount of refrigerant is roughly as follows:

**Table 1-2**

Installation height of Indoor Unit: hinst	Indoor Unit Type	Density Limit Line
$h_{inst} \geq 2.2 \text{ m}$	Duct units (Horizontal installation)	Line 1
$1.8 \text{ m} \leq h_{inst} < 2.2 \text{ m}$	Duct units (Horizontal installation)	Line 2
$h_{inst} < 1.8 \text{ m}$	Duct units (Vertical installation)	Line 3



The minimum indoor floor space compared with the amount of refrigerant is roughly as follows: Use the graph or Table 2 to determine the minimum indoor floor space.



**Fig. 2**

**Table 2**

[m <sub>c</sub> ] kg	[Amin] m <sup>2</sup>		
	Line 1	Line 2	Line 3
1.22	2.5	3.0	12.8
1.3	2.6	3.2	14.5
1.4	2.8	3.4	16.8
1.5	3.0	3.7	19.3
1.6	3.2	3.9	22.0
1.7	3.4	4.2	24.8
1.8	3.6	4.4	27.8

$m_c \leq 1.22$  : Can be installed

$1.22 < m_c \leq m_{max}$  : Can be installed above "Density Limit Line" \*1

\*1 See Table 1-2 and Fig. 2 of indoor unit when deciding "Density Limit Line".

## Precautions for Installation Using New Refrigerant

### 1. Care regarding tubing

#### 1-1. Process tubing

- **Material:** Use seamless phosphorous deoxidized copper tube for refrigeration. Wall thickness shall comply with the applicable legislation. The minimal wall thickness must be in accordance with the table below.
- **Tubing size: Be sure to use the sizes indicated in the table below.**  
For the renewal tubing size, refer to the Technical Data.
- Use a tube cutter when cutting the tubing, and be sure to remove any flash. This also applies to distribution joints (optional).
- When bending tubing, use a bending radius that is 4 times the outer diameter of the tubing or larger.



**CAUTION** Use sufficient care in handling the tubing. Seal the tubing ends with caps or tape to prevent dirt, moisture, or other foreign substances from entering. These substances can result in system malfunction.

Unit: mm

Material		Temper - O (Soft copper tube)			
Copper tube	Outer diameter	6.35	9.52	12.7	15.88
	Wall thickness	0.8	0.8	0.8	1.0

1-2. Prevent impurities including water, dust and oxide from entering the tubing. Impurities can cause R32 refrigerant deterioration and compressor defects. Due to the features of the refrigerant and refrigerating machine oil, the prevention of water and other impurities becomes more important than ever.

### 2. Be sure to recharge the refrigerant only in liquid form.

2-1. Since refrigerant composition changes and performance decreases when gas leaks, collect the remaining refrigerant and recharge the required total amount of new refrigerant after fixing the leak.

### 3. Different tools required

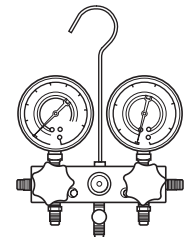
3-1. Tool specifications have been changed due to the characteristics of R32.

Some tools for R22- and R407C-type refrigerant systems cannot be used.

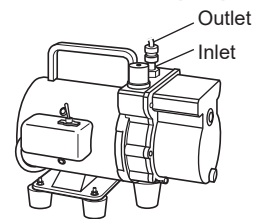
Item	Different tools? (From R22 and R407C)	R410A tools compatible with R32?	Remarks
Manifold gauge	Yes	Yes	Types of refrigerant, refrigerating machine oil, and pressure gauge are different.
Charge hose	Yes	Yes	To resist higher pressure, material must be changed.
Vacuum pump	Yes	Yes	Use a conventional vacuum pump if it is equipped with a check valve. If it has no check valve, purchase and attach a vacuum pump adapter.
Leak detector	Yes	Yes	Leak detectors for CFC and HCFC that react to chlorine do not function because R32 and R410A contains no chlorine. Leak detectors for HFC can be used for R32 and R410A.
Flaring oil	Yes	Yes	For systems that use R22, apply mineral oil (Suniso oil) to the flare nuts on the tubing to prevent refrigerant leakage. For machines that use R32 or R410A, apply synthetic oil (ether oil) to the flare nuts.

\* Using tools for R22 and R407C can cause defects.

Manifold gauge



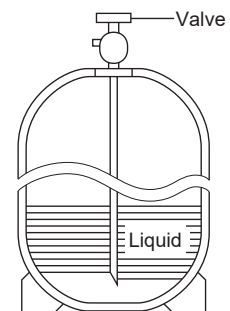
Vacuum pump



#### Single-outlet valve

(with siphon tube)

Liquid refrigerant should be recharged with the cylinder standing on end as shown.



### Important Information Regarding The Refrigerant Used

This product contains fluorinated greenhouse gases. Do not vent gases into the atmosphere.

Refrigerant type: R32

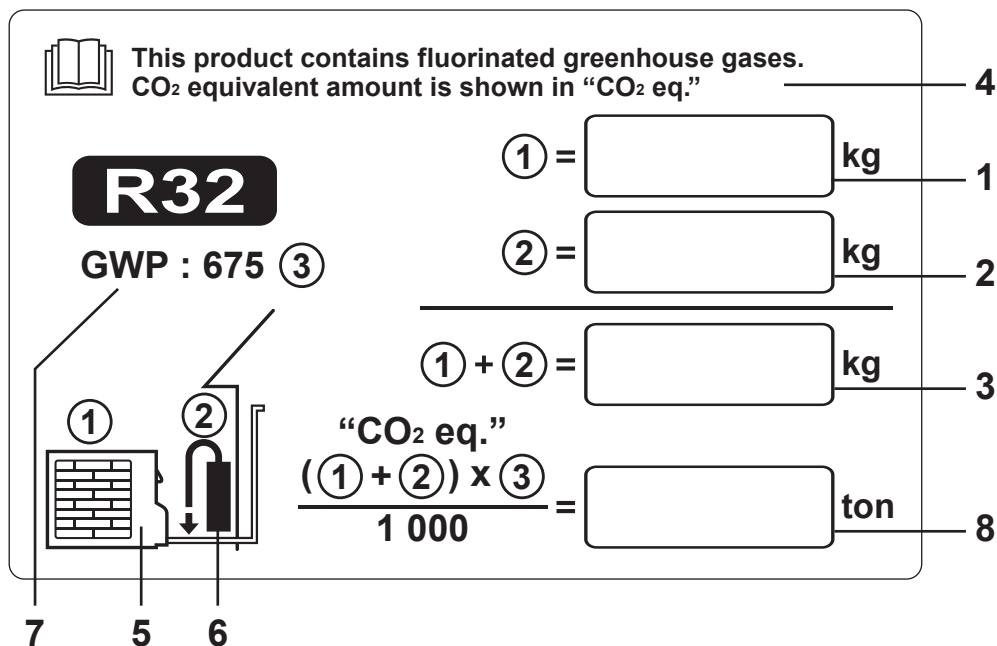
GWP<sup>(1)</sup> value: 675

<sup>(1)</sup>GWP = global warming potential

Periodical inspections for refrigerant leaks may be required depending on European or local legislation. Please contact your local dealer for more information.

Fill in the blanks below with the indelible ink pens.

- 1 : the factory refrigerant charge of the product
- 2 : the additional refrigerant amount charged in the field
- 1 + 2 : the total refrigerant charge
- (1 + 2 ) x 3 /1000: CO<sub>2</sub> equivalent in tons; multiply the total refrigerant charge by GWP value, then divided by 1000.



1. Factory refrigerant charge of the product: see unit name plate
2. Additional refrigerant amount charged in the field\*
3. Total refrigerant charge
4. Contains fluorinated greenhouse gases
5. Outdoor unit
6. Refrigerant cylinder and manifold for charging
7. GWP(global warming potential) of the refrigerant used in this product
8. CO<sub>2</sub> equivalent of fluorinated greenhouse gases contained in this product

\* See the section "5. REFRIGERANT INSTALLATION" on page 1-11-2-1-16.

**Combination of Indoor and Outdoor Units**

**PZ3**

**Single-phase**

	<b>36</b>	<b>50</b>	<b>60</b>	<b>71</b>
<b>U3</b>	S-3650PU3E (S-3650PU3E(36)) U-36PZ3E5	S-3650PU3E (S-3650PU3E(50)) U-50PZ3E5	S-6071PU3E (S-6071PU3E(60)) U-60PZ3E5	S-6071PU3E (S-6071PU3E(71)) U-71PZ3E5
<b>F3</b>	S-3650PF3E (S-3650PF3E(36)) U-36PZ3E5	S-3650PF3E (S-3650PF3E(50)) U-50PZ3E5	S-6071PF3E (S-6071PF3E(60)) U-60PZ3E5	S-6071PF3E (S-6071PF3E(71)) U-71PZ3E5



# — CONTENTS —

<b>Section 1. SPECIFICATIONS</b> .....	<b>1-i</b>
1-1. Unit Specifications .....	1-1-1-1-1
1-2. Dimensional Data .....	1-2-1-1-1
1-3. Refrigerant Flow Diagram .....	1-3-1
1-4. Operating Range .....	1-4-1
1-5. Capacity Correction Graph According to Temperature Condition .....	1-5-1
1-6. Noise Criterion Curves .....	1-6-1-1-1
1-7. Indoor Fan Performance .....	1-7-1
1-8. Airflow Distance Chart .....	1-8-1
1-9. Fresh Air Intake .....	1-9-1
1-10. Electrical Wiring .....	1-10-1-1-1
■ Indoor Unit .....	1-10-1-1-1
■ Outdoor Unit .....	1-10-2-1-1
1-11. Installation Instructions .....	1-11-1-1-1
■ Indoor Unit .....	1-11-1-1-1
■ Outdoor Unit .....	1-11-2-1-1
1-12. Capacity Table .....	1-12-1-1-1
1. Cooling Capacity Performance Data .....	1-12-1-1-1
2. Heating Capacity Performance Data .....	1-12-2-1-1
1-13. Product Fiche .....	1-13-1
<b>Section 2. TEST RUN</b> .....	<b>2-i</b>
2-1. Preparing for Test Run .....	2-1-1
2-2. Precautions .....	2-2-1
2-3. Indoor Units .....	2-3-1-1
■ Type U3, Type F3	
2-3-1-1. Caution .....	2-3-1-1
2-3-1-2. Test Run Procedure .....	2-3-1-1
2-3-1-3. Items to Check Before the Test Run .....	2-3-1-1
2-3-1-4. Test Run Using the Remote Controller .....	2-3-1-2
2-3-1-5. Contents of Remote Controller Switch Alarm Display .....	2-3-1-3
2-3-1-6. System Control .....	2-3-1-7
2-4. Outdoor Units .....	2-4-1-1
2-4-1-1. CHECKS AFTER INSTALLATION HAVE COMPLETED .....	2-4-1-1
2-4-1-2. REGARDING DELIVERY TO THE CUSTOMER .....	2-4-1-1
2-4-1-3. Caution for Pump-Down .....	2-4-1-2
<b>Section 3. ELECTRICAL DATA</b> .....	<b>3-i</b>
3-1. Indoor Units (Electric Wiring Diagram) .....	3-1-1-1
4-Way Cassette Type .....	3-1-1-1
Middle Static Pressure Duct Type .....	3-1-2-1
3-2. Outdoor Units (Electric Wiring Diagram) .....	3-2-1-1

**Section 4. CONTROL FUNCTIONS ..... 4-i**

- 4-1. Room Temperature Control ..... 4-1
- 4-2. Heating Standby ..... 4-3
- 4-3. Automatic Fan Speed Control ..... 4-4
- 4-4. Drain Pump Control ..... 4-5
- 4-5. Automatic Heating/Cooling Control ..... 4-6
- 4-6. Automatic Flap Control ..... 4-7
- 4-7. Filter Sign ..... 4-7
- 4-8. Fan Control during Dry Mode ..... 4-8
- 4-9. Ventilation Fan Output ..... 4-8
- 4-10. T10 Terminal ..... 4-8
- 4-11. Parameter ..... 4-9
- 4-12. Control Functions ..... 4-10
- 4-13. Indoor Unit Control PCB Switches and Functions ..... 4-15
- 4-14. Outdoor Units Control PCB (CR-PCB) ..... 4-17
- 4-15. Self-Diagnostics Function Table ..... 4-19

**Section 5. TROUBLE DIAGNOSIS ..... 5-i**

- 5-1. Contents of Remote Controller Switch Alarm Display ..... 5-1-1
- 5-2. PAC System Alarm Codes ..... 5-2-1-1
  - 1. Indoor ..... 5-2-1-1
  - 2. Outdoor ..... 5-2-2-1
- 5-3. Inspection of Parts (Outdoor Unit) ..... 5-3-1
- 5-4. How to Replace Fan Motor ..... 5-4-1

**Section 6. OUTDOOR UNIT MAINTENANCE REMOTE CONTROLLER ..... 6-i**

**\* Refer to the Service Manual of the remote controller (CZ-RTC6 Series)**

**Section 7. REMOTE CONTROLLER FUNCTIONS SECTION ..... 7-i**

- 7-1. Simple Settings Function ..... 7-1
- 7-2. List of Simple Setting Items ..... 7-3
- 7-3. Detailed Settings Function ..... 7-4
- 7-4. List of Detailed Setting Items ..... 7-6
- 7-5. Simple Setting Items ..... 7-10
- 7-6. Detailed Setting Items ..... 7-12
- 7-7. Remote Controller Servicing Functions ..... 7-16
- 7-8. Test Run Function ..... 7-18

## **Section 8. HOW TO INSTALL THE WIRELESS (INFRARED) REMOTE CONTROLLER RECEIVER.. 8-i**

8-1. Important Safety Instructions .....	8-1
8-2. Optional Controller (Remote Controller).....	8-2-1-1
8-2-1-1. Names and Operations .....	8-2-1-1
8-2-1-2. Installing Batteries .....	8-2-1-3
8-2-1-3. Setting the Current Time .....	8-2-1-3
8-2-1-4. Operation .....	8-2-1-4
8-2-1-5. Timer Operation .....	8-2-1-5
8-2-1-6. Lock Individual Flap .....	8-2-1-6
8-2-1-7. Operating Multiple In/Outdoor Units Simultaneously (Group Control) .....	8-2-1-6
8-2-1-8. Using the Remote Controller .....	8-2-1-7
8-2-1-9. Pairing Addresses .....	8-2-1-7
8-2-1-10. Emergency Operation .....	8-2-1-9
8-2-1-11. Miscellaneous Settings .....	8-2-1-10
8-2-1-12. Button Control .....	8-2-1-10
8-2-1-13. nanoe™ X Setting .....	8-2-1-11
8-2-1-14. ECONAVI Setting .....	8-2-1-11
8-2-1-15. Ventilation Setting .....	8-2-1-11
8-2-1-16. Energy Saving Setting .....	8-2-1-11
8-2-1-17. Temperature Automatic Return .....	8-2-1-12
8-2-1-18. Troubleshooting .....	8-2-1-13
8-3. Wiring for the Receiver .....	8-3-1
8-3-1. Common to All Models .....	8-3-1
8-3-2. CZ-RWRU3, CZ-RWRU3W .....	8-3-3
8-3-3. CZ-RWRC3 .....	8-3-6
8-3-4. Common to All Models .....	8-3-10

– MEMO –

# 1. SPECIFICATIONS

<b>1-1. Unit Specifications</b> .....	<b>1-1-1-1-1</b>
PZ3	
1. 4-Way Cassette Type (U3) .....	1-1-1-1-1
2. Middle Static Pressure Duct Type (F3) .....	1-1-1-2-1
<b>1-2. Dimensional Data</b> .....	<b>1-2-1-1-1</b>
(A) Indoor Units .....	1-2-1-1-1
(B) Outdoor Units .....	1-2-2-1-1
<b>1-3. Refrigerant Flow Diagram</b> .....	<b>1-3-1</b>
<b>1-4. Operating Range</b> .....	<b>1-4-1</b>
<b>1-5. Capacity Correction Graph According to Temperature Condition</b> .....	<b>1-5-1</b>
<b>1-6. Noise Criterion Curves</b> .....	<b>1-6-1-1-1</b>
(A) Indoor Units .....	1-6-1-1-1
(B) Outdoor Units .....	1-6-2-1-1
<b>1-7. Indoor Fan Performance</b> .....	<b>1-7-1</b>
<b>1-8. Airflow Distance Chart</b> .....	<b>1-8-1</b>
<b>1-9. Fresh Air Intake</b> .....	<b>1-9-1</b>
<b>1-10. Electrical Wiring</b> .....	<b>1-10-1-1-1</b>
■ Indoor Unit .....	1-10-1-1-1
■ Outdoor Unit .....	1-10-2-1-1
<b>1-11. Installation Instructions</b> .....	<b>1-11-1-1-1</b>
Indoor Unit .....	1-11-1-1-1
1. 4-Way Cassette Type (U3) .....	1-11-1-1-1
2. Middle Static Pressure Duct Type (F3) .....	1-11-1-2-1
Outdoor Unit .....	1-11-2-1-1
1. U-36PZ3E5, U-50PZ3E5, U-60PZ3E5, U-71PZ3E5 .....	1-11-2-1-1
<b>1-12. Capacity Table</b> .....	<b>1-12-1-1-1</b>
1. Cooling Capacity Performance Data .....	1-12-1-1-1
2. Heating Capacity Performance Data .....	1-12-2-1-1
<b>1-13. Product Fiche</b> .....	<b>1-13-1</b>

# Single - Type

## 1-1. Unit Specifications

**PZ3**

### 1. 4-Way Cassette Type S-3650PU3E(36) / U-36PZ3E5

INDOOR		MODEL	S-3650PU3E(36)			-			-		
PANEL		MODEL	Standard type : CZ-KPU3 or CZ-KPU3W / ECONAVI type : CZ-KPU3A or CZ-KPU3AW			-			-		
OUTDOOR		MODEL	-			U-36PZ3E5			-		
Branch pipe		MODEL	-			-			-		
Performance test condition		ISO5151 / EN14511 / EN12102 / EN14825									
Power supply		Ø, Hz	1Ø 50Hz			1Ø 50Hz			Min	Max	
		V	220V	230V	240V	220V	230V	240V			
C O O L I N G	Capacity	kW	3.6	3.6	3.6	-	-	-	1.5	4.0	
		BTU/h	12300	12300	12300	-	-	-	5100	13600	
	Current	A	-	-	-	3.85	3.70	3.55	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-	-	-	0.830k	0.830k	0.830k	0.255k	1.050k	
		Annual consumption	TOTAL kWh **	-	-	-	-	415	-	-	-
	EER/EER CLASS		TOTAL (W/W) *5/ (*A~*G)	-	-	-	4.34	4.34 / A	4.34	5.88	3.81
	ErP *6	Pdesign	kW	-	-	-	-	3.6	-	-	-
		SEER	(W/W)	-	-	-	-	8.1	-	-	-
		Annual consumption	kWh	-	-	-	-	156	-	-	-
Class			-	-	-	-	A++	-	-	-	
Power factor		%	-	-	-	98	98	98	-	-	
Noise indoor *7	dB-A (H/M/L)		30 / 28 / 27			-			-	-	
	Power Level dB		45 / 43 / 42			-			-	-	
Noise outdoor	dB-A (H/L)		-			46 / -			-	-	
	Power Level dB		-			64 / -			-	-	
H E A T I N G	Capacity	kW	3.6	3.6	3.6	-	-	-	1.5	4.6	
		BTU/h	12300	12300	12300	-	-	-	5100	15700	
	Current	A	-	-	-	3.35	3.20	3.05	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-	-	-	0.710k	0.710k	0.710k	0.230k	1.060k	
		COP/COP CLASS	TOTAL (W/W) *5/ (*A~*G)	-	-	-	5.07	5.07 / A	5.07	6.52	4.34
	ErP *6	Pdesign at -10°C	kW	-	-	-	-	2.8	-	-	-
		Tbivalent	°C	-	-	-	-	-10	-	-	-
		SCOP	(W/W)	-	-	-	-	4.8	-	-	-
		Annual consumption	kWh	-	-	-	-	817	-	-	-
elbu(-10°C)	kW	-	-	-	-	0.00	-	-	-	-	
	Class		-	-	-	-	A++	-	-	-	
Power factor		%	-	-	-	97	97	97	-	-	
Noise indoor *7	dB-A (H/M/L)		30 / 28 / 27			-			-	-	
	Power Level dB		45 / 43 / 42			-			-	-	
Noise outdoor	dB-A (H/L)		-			47 / -			-	-	
	Power Level dB		-			66 / -			-	-	
LOW TEMP Total capacity(kW) / Input power(W) / COP			-	-	-	-	-	-	-	-	
EXTRA LOW TEMP Total capacity(kW) / Input power(W) / COP			-	-	-	-	-	-	-	-	
Max Current(A) / Max Input power(W)			-	-	-	8.90 / 1.95k	8.90 / 1.99k	8.90 / 2.04k	-	-	
Starting current(A) (Cooling/Heating)			-	-	-	3.85 / 3.35	3.70 / 3.20	3.55 / 3.05	-	-	
Comp output(W)			-	-	-	1.10k	1.10k	1.10k	-	-	
Time Delay fuse max size(A)			-	-	-	-	15	-	-	-	
Network Impedance(ΩMAX.)			-	-	-	-	-	-	-	-	
Fan motor output (Indoor/Outdoor) W			60			40			-	-	
Moisture removal volume		L/h	0.7 (0.7 ×1)			-			-	-	
External static pressure		Pa	-			-			-	-	
Indoor Air flow *7	Cooling	m³/min (H/M/L)	14.5 / 13.0 / 11.5			-			-	-	
	Heating	m³/min (H/M/L)	14.5 / 13.0 / 11.5			-			-	-	
Outdoor Air flow	Cooling	m³/min	-			33.6			-	-	
	Heating	m³/min	-			34.0			-	-	
Refrigerant type / amount(ship) kg / amount(max) kg			-			R32	0.870	0.950	-	-	
F-Gas	GWP / CO2eq (ton) (PRECHARGED AMOUNT) / CO2eq (ton) (MAXIMUM CHARGED AMOUNT)		-			675	0.59	0.64	-	-	
	Product dimension	Height mm	256			619			-	-	
Product dimension (Panel)	Width mm	840			824			-	-		
	Depth mm	840			299			-	-		
	H×W×D mm	33.5 × 950 × 950			-			-	-		
Packing dimension	Height mm	302			680			-	-		
	Width mm	898			958			-	-		
	Depth mm	898			416			-	-		
Weight	(NET) kg	19			32			-	-		
	(GROSS) kg	25			35			-	-		
	Panel (NET) kg	5			-			-	-		
Layers limit (actually)			11 (12)			5 (6)			-	-	
Operation condition	Cool (DBT)		18°C ~ 32°C			-10°C ~ 43°C			-	-	
	Heat (DBT)		16°C ~ 30°C			-15°C ~ 24°C			-	-	
Max Working Pressure HP/LP MPa			4.15 / 2.55			-			-	-	
P I P E I N G	Pipe port diameter mm (inch)		(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			-	-	
	Pipe diameter mm (inch)		(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			-			-	-	
Connecting method			flared type			flared type			-	-	
Standard length m			5 m			-			-	-	
Pipe length range m			3 ~ 15 m			-			-	-	
Indoor unit & Outdoor unit height difference m			15 m(OD located lower) / 15 m(OD located higher)			-			-	-	
Add gas amount g/m			10 g/m			-			-	-	
Pipe length for additional gas m			7.5 m			-			-	-	

\* In the case of nanoe X OFF

\*1 In case it is necessary to indicate the air flow volume in (l/s), the value in (m³/min.) shall be multiplied by 16.7 and rounded down the decimal point.

\*2 If the EUROVENT Certified models can be operated under the "extra-low" temperature condition, -7°C dry bulb and -8°C wet-bulb temperatures with rated voltage 230V shall be used.

\*3 Network Impedance shall be applicable for EUROPE and CHINA models.

\*4 The annual consumption is calculated by multiplying the input power at 230V(400V) by an average of 500 hours per year in cooling mode.

\*5 EER and COP classification is at 230V(400V) only in accordance with EU directive 2002/31/EC.

\*6 SEER and SCOP classification is at 230V(400V) only in accordance with EN-14825. For heating, SCOP indicates the value of only Average heating season, Other fiche data indicates in an attached sheet.

\*7 H : High at setting 5 stage (Level 5), M : Middle at setting 5 stage (Level 3), L : Low at setting 5 stage (Level 1)

# Single - Type

## 1-1. Unit Specifications

**PZ3**

### 1. 4-Way Cassette Type S-3650PU3E(50) / U-50PZ3E5

INDOOR		MODEL	S-3650PU3E(50)			-			-		
PANEL		MODEL	Standard type : CZ-KPU3 or CZ-KPU3W / ECONAVI type : CZ-KPU3A or CZ-KPU3AW			-			-		
OUTDOOR		MODEL	-			U-50PZ3E5			-		
Branch pipe		MODEL	-			-			-		
Performance test condition		ISO5151 / EN14511 / EN12102 / EN14825									
Power supply		Ø, Hz	1Ø 50Hz			1Ø 50Hz					
		V	220V	230V	240V	220V	230V	240V	Min	Max	
C O O L I N G	Capacity	kW	5.0	5.0	5.0	-	-	-	1.5	5.6	
		BTU/h	17100	17100	17100	-	-	-	5100	19100	
	Current	A	-	-	-	5.95	5.70	5.45	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-			1.280k	1.280k	1.280k	0.240k	1.750k	
		Annual consumption	TOTAL kWh *4	-	-	-	-	640	-	-	
	EER/EER CLASS		TOTAL (W/W) *5 / (*A*~*G*)	-	-	-	3.91	3.91 / A	3.91	6.25	3.20
	ErP *6	Pdesign	kW	-	-	-	-	5.0	-	-	-
		SEER	(W/W)	-	-	-	-	8.0	-	-	-
		Annual consumption	kWh	-	-	-	-	219	-	-	-
Class			-	-	-	-	A++	-	-	-	
Power factor		%	-	-	-	98	98	98	-	-	
Noise indoor *7	dB-A (H/M/L)		32 / 29 / 27			-			-	-	
	Power Level dB		47 / 44 / 42			-			-	-	
Noise outdoor	dB-A (H/L)		-			46 / -			-	-	
	Power Level dB		-			64 / -			-	-	
H E A T I N G	Capacity	kW	5.0	5.0	5.0	-	-	-	1.5	6.4	
		BTU/h	17100	17100	17100	-	-	-	5100	21800	
	Current	A	-	-	-	5.05	4.85	4.65	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-			1.080k	1.080k	1.080k	0.200k	1.840k	
		COP/COP CLASS	TOTAL (W/W) *5 / (*A*~*G*)	-	-	-	4.63	4.63 / A	4.63	7.50	3.48
	ErP *6	Pdesign at -10°C	kW	-	-	-	-	4.0	-	-	-
		Tbivalent	°C	-	-	-	-	-10	-	-	-
		SCOP	(W/W)	-	-	-	-	4.7	-	-	-
		Annual consumption	kWh	-	-	-	-	1191	-	-	-
elbu(-10°C)	kW	-	-	-	-	0.00	-	-	-	-	
	Class		-	-	-	-	A++	-	-	-	
Power factor		%	-	-	-	97	97	97	-	-	
Noise indoor *7	dB-A (H/M/L)		32 / 29 / 27			-			-	-	
	Power Level dB		47 / 44 / 42			-			-	-	
Noise outdoor	dB-A (H/L)		-			46 / -			-	-	
	Power Level dB		-			64 / -			-	-	
LOW TEMP		Total capacity(kW) / Input power(W) / COP	-			-	-	-	-	-	
EXTRA LOW TEMP		Total capacity(kW) / Input power(W) / COP	-			-	-	-	-	-	
Max Current(A) / Max Input power(W)			-	-	-	10.5 / 2.20k	10.5 / 2.25k	10.5 / 2.30k	-	-	
Starting current(A) (Cooling/Heating)			-	-	-	5.95 / 5.05	5.70 / 4.85	5.45 / 4.65	-	-	
Comp output(W)			-			1.50k	1.50k	1.50k	-	-	
Time Delay fuse max size(A)			-			-			15	-	
Network Impedance(ΩMAX.)			-			-			-	-	
Fan motor output (Indoor/Outdoor) W			60			40			-	-	
Moisture removal volume		L/h	1.6 (1.6 ×1)			-			-	-	
External static pressure		Pa	-			-			-	-	
Indoor Air flow *7	Cooling	m³/min (H/M/L)	16.5 / 13.5 / 11.5			-			-	-	
	Heating	m³/min (H/M/L)	16.5 / 13.5 / 11.5			-			-	-	
Outdoor Air flow	Cooling	m³/min	-			32.7			-	-	
	Heating	m³/min	-			31.9			-	-	
Refrigerant type / amount(ship) kg / amount(max) kg			-			R32	1.140	1.330	-	-	
F-Gas	GWP / CO2eq (ton) (PRECHARGED AMOUNT) / CO2eq (ton) (MAXIMUM CHARGED AMOUNT)		-			675	0.77	0.90	-	-	
	Product dimension	Height mm	256			619			-	-	
Product dimension (Panel)	Width mm	840			824			-	-		
	Depth mm	840			299			-	-		
	H×W×D mm	33.5 × 950 × 950			-			-	-		
Packing dimension	Height mm	302			680			-	-		
	Width mm	898			958			-	-		
	Depth mm	898			416			-	-		
Weight	(NET) kg	19			35			-	-		
	(GROSS) kg	25			38			-	-		
	Panel (NET) kg	5			-			-	-		
Layers limit (actually)			11 (12)			5 (6)			-	-	
Operation condition	Cool (DBT)		18°C ~ 32°C			-10°C ~ 43°C			-	-	
	Heat (DBT)		16°C ~ 30°C			-15°C ~ 24°C			-	-	
Max Working Pressure HP/LP MPa			4.15 / 2.55			-			-	-	
P I P E I N G	Pipe port diameter mm (inch)		(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			-	-	
	Pipe diameter mm (inch)		(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			-			-	-	
Connecting method			flared type			flared type			-	-	
Standard length m			5 m			-			-	-	
Pipe length range m			3 ~ 20 m			-			-	-	
Indoor unit & Outdoor unit height difference m			15 m(OD located lower) / 15 m(OD located higher)			-			-	-	
Add gas amount g/m			15 g/m			-			-	-	
Pipe length for additional gas m			7.5 m			-			-	-	

\* In the case of nanoe X OFF

\*1 In case it is necessary to indicate the air flow volume in (l/s), the value in (m³/min.) shall be multiplied by 16.7 and rounded down the decimal point.

\*2 If the EUROVENT Certified models can be operated under the "extra-low" temperature condition, -7°C dry bulb and -8°C wet-bulb temperatures with rated voltage 230V shall be used.

\*3 Network Impedance shall be applicable for EUROPE and CHINA models.

\*4 The annual consumption is calculated by multiplying the input power at 230V(400V) by an average of 500 hours per year in cooling mode.

\*5 EER and COP classification is at 230V(400V) only in accordance with EU directive 2002/31/EC.

\*6 SEER and SCOP classification is at 230V(400V) only in accordance with EN-14825. For heating, SCOP indicates the value of only Average heating season, Other fiche data indicates in an attached sheet.

\*7 H : High at setting 5 stage (Level 5), M : Middle at setting 5 stage (Level 3), L : Low at setting 5 stage (Level 1)

# Single - Type

## 1-1. Unit Specifications

**PZ3**

### 1. 4-Way Cassette Type S-6071PU3E(60) / U-60PZ3E5

INDOOR		MODEL	S-6071PU3E(60)			-			-	
PANEL		MODEL	Standard type : CZ-KPU3 or CZ-KPU3W / ECONAVI type : CZ-KPU3A or CZ-KPU3AW			-			-	
OUTDOOR		MODEL	-			U-60PZ3E5			-	
Branch pipe		MODEL	-			-			-	
Performance test condition					ISO5151 / EN14511 / EN12102 / EN14825					
Power supply		Ø, Hz	1Ø 50Hz			1Ø 50Hz			Min	Max
C O O L I N G	Capacity	V	220V	230V	240V	220V	230V	240V	-	-
		kW	6.0	6.0	6.0	-	-	-	2.0	7.1
	Current	BTU/h	20500	20500	20500	-	-	-	6800	24200
		A	-	-	-	7.45	7.15	6.85	-	-
	Input power	W	-	-	-	-	-	-	-	-
		TOTAL W	-	-	-	1.610k	1.610k	1.610k	0.290k	2.360k
	Annual consumption	TOTAL kWh *4	-	-	-	-	805	-	-	-
	EER/EER CLASS	TOTAL (W/W) *5/ (*A~*G)	-	-	-	3.73	3.73 / A	3.73	6.90	3.01
	ErP *6	Pdesign	kW	-	-	-	-	6.0	-	-
		SEER	(W/W)	-	-	-	-	7.8	-	-
Annual consumption		kWh	-	-	-	-	269	-	-	
Class		-	-	-	-	-	A++	-	-	
Power factor	%	-	-	-	98	98	98	-	-	
Noise indoor *7	dB-A (H/M/L)	36 / 31 / 28			-			-	-	
	Power Level dB	51 / 46 / 43			-			-	-	
Noise outdoor	dB-A (H/L)	-			47 / -			-	-	
	Power Level dB	-			64 / -			-	-	
H E A T I N G	Capacity	kW	6.0	6.0	6.0	-	-	-	1.8	7.0
		BTU/h	20500	20500	20500	-	-	-	6100	23900
	Current	A	-	-	-	6.20	5.95	5.70	-	-
		W	-	-	-	-	-	-	-	-
	Input power	TOTAL W	-	-	-	1.340k	1.340k	1.340k	0.240k	2.200k
		COP/COP CLASS	TOTAL (W/W) *5/ (*A~*G)	-	-	-	4.48	4.48 / A	4.48	7.50
	ErP *6	Pdesign at -10°C	kW	-	-	-	-	4.6	-	-
		Tbivalent	°C	-	-	-	-	-10	-	-
		SCOP	(W/W)	-	-	-	-	4.9	-	-
		Annual consumption	kWh	-	-	-	-	1314	-	-
elbu(-10°C)		kW	-	-	-	-	0.00	-	-	
Class	-	-	-	-	-	A++	-	-		
Power factor	%	-	-	-	98	98	98	-	-	
Noise indoor *7	dB-A (H/M/L)	36 / 31 / 28			-			-	-	
	Power Level dB	51 / 46 / 43			-			-	-	
Noise outdoor	dB-A (H/L)	-			48 / -			-	-	
	Power Level dB	-			65 / -			-	-	
LOW TEMP	Total capacity(kW) / Input power(W) / COP	-			-			-		
EXTRA LOW TEMP	Total capacity(kW) / Input power(W) / COP	-			-			-		
Max Current(A) / Max Input power(W)	-		-	-	-	13.1 / 2.60k	13.1 / 2.65k	13.1 / 2.70k	-	
Starting current(A) (Cooling/Heating)	-		-	-	-	7.45 / 6.20	7.15 / 5.95	6.85 / 5.70	-	
Comp output(W)	-		-	-	-	1.70k	1.70k	1.70k	-	
Time Delay fuse max size(A)	-		-	-	-	-	20	-		
Network Impedance(ΩMAX.)	-		-	-	-	-	-	-		
Fan motor output (Indoor/Outdoor) W	-		60	-	-	-	40	-		
Moisture removal volume	L/h	1.7 (1.7 ×1)			-			-	-	
External static pressure	Pa	-			-			-	-	
Indoor Air flow *7	Cooling	m³/min (H/M/L)	21.0 / 16.0 / 13.0			-			-	
	Heating	m³/min (H/M/L)	21.0 / 16.0 / 13.0			-			-	
Outdoor Air flow	Cooling	m³/min	-			42.6			-	
	Heating	m³/min	-			41.5			-	
Refrigerant type / amount(ship) kg / amount(max) kg	-		-	-	-	R32	1.150	1.490	-	
F-Gas	GWP /	-			675			0.78	1.01	
	CO2eq (ton) (PRECHARGED AMOUNT) / CO2eq (ton) (MAXIMUM CHARGED AMOUNT)	-			-			-	-	
Product dimension	Height	mm	256			695			-	
	Width	mm	840			875			-	
	Depth	mm	840			320			-	
Product dimension (Panel)	H×W×D	mm	33.5 × 950 × 950			-			-	
Packing dimension	Height	mm	302			761			-	
	Width	mm	898			1049			-	
	Depth	mm	898			460			-	
Weight	(NET)	kg	20			42			-	
	(GROSS)	kg	26			46			-	
	Panel (NET)	kg	5			-			-	
Layers limit (actually)	-		11 (12)	-		3 (4)	-			
Operation condition	Cool (DBT)	18°C ~ 32°C			-10°C ~ 43°C			-		
	Heat (DBT)	16°C ~ 30°C			-15°C ~ 24°C			-		
Max Working Pressure HP/LP	MPa	4.15 / 2.55			-			-		
P I P I N G	Pipe port diameter mm (inch)	(Liquid)Ø9.52(3/8) (Gas)Ø15.88(5/8)			(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			-		
	Pipe diameter mm (inch)	(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2) *Connect the gas socket tube(Ø15.88-Ø12.7) to the gas tubing side indoor unit					*Connect the liquid socket tube(Ø9.52-Ø6.35) to the liquid tubing side indoor unit			
	Connecting method	flared type			flared type			-		
	Standard length	m			5 m			-		
	Pipe length range	m			3 ~ 30 m			-		
	Indoor unit & Outdoor unit height difference	m			15 m(OD located lower) / 15 m(OD located higher)			-		
	Add gas amount	g/m			15 g/m			-		
	Pipe length for additional gas	m			7.5 m			-		

\* In the case of nanoe X OFF

\*1 In case it is necessary to indicate the air flow volume in (l/s), the value in (m³/min.) shall be multiplied by 16.7 and rounded down the decimal point.

\*2 If the EUROVENT Certified models can be operated under the "extra-low" temperature condition, -7°C dry bulb and -8°C wet-bulb temperatures with rated voltage 230V shall be used.

\*3 Network Impedance shall be applicable for EUROPE and CHINA models.

\*4 The annual consumption is calculated by multiplying the input power at 230V(400V) by an average of 500 hours per year in cooling mode.

\*5 EER and COP classification is at 230V(400V) only in accordance with EU directive 2002/31/EC.

\*6 SEER and SCOP classification is at 230V(400V) only in accordance with EN-14825. For heating, SCOP indicates the value of only Average heating season, Other fiche data indicates in an attached sheet.

\*7 H : High at setting 5 stage (Level 5), M : Middle at setting 5 stage (Level 3), L : Low at setting 5 stage (Level 1)



# Single - Type

## 1-1. Unit Specifications

**PZ3**

### 1. 4-Way Cassette Type S-6071PU3E(71) / U-71PZ3E5

INDOOR		MODEL	S-6071PU3E(71)			-			-		
PANEL		MODEL	Standard type : CZ-KPU3 or CZ-KPU3W / ECONAVI type : CZ-KPU3A or CZ-KPU3AW			-			-		
OUTDOOR		MODEL	-			U-71PZ3E5			-		
Branch pipe		MODEL	-			-			-		
Performance test condition					ISO5151 / EN14511 / EN12102 / EN14825						
Power supply		Ø, Hz	1Ø 50Hz			1Ø 50Hz					
		V	220V	230V	240V	220V	230V	240V	Min	Max	
C O O L I N G	Capacity	kW	7.1	7.1	7.1	-	-	-	2.6	7.7	
		BTU/h	24200	24200	24200	-	-	-	8900	26300	
	Current	A	-	-	-	10.0	9.65	9.25	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-	-	-	2.170k	2.170k	2.170k	0.520k	2.780k	
		Annual consumption	TOTAL kWh *4	-	-	-	1085	-	-	-	
	EER/EER CLASS		TOTAL (W/W) *5/ (*A~*G)	-	-	-	3.27	3.27 / A	3.27	5.00	2.77
	ErP *6	Pdesign	kW	-	-	-	-	7.1	-	-	-
		SEER	(W/W)	-	-	-	-	6.8	-	-	-
		Annual consumption	kWh	-	-	-	-	365	-	-	-
		Class		-	-	-	-	A++	-	-	-
	Power factor		%	-	-	-	98	98	98	-	-
	Noise indoor *7	dB-A (H/M/L)		37 / 31 / 28			-			-	-
		Power Level dB		52 / 46 / 43			-			-	-
Noise outdoor	dB-A (H/L)		-			48 / -			-	-	
	Power Level dB		-			66 / -			-	-	
H E A T I N G	Capacity	kW	7.1	7.1	7.1	-	-	-	2.1	8.1	
		BTU/h	24200	24200	24200	-	-	-	7200	27600	
	Current	A	-	-	-	7.80	7.45	7.15	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-	-	-	1.680k	1.680k	1.680k	0.330k	2.400k	
		COP/COP CLASS	TOTAL (W/W) *5/ (*A~*G)	-	-	-	4.23	4.23 / A	4.23	6.36	3.38
	ErP *6	Pdesign at -10°C	kW	-	-	-	-	5.2	-	-	-
		Tbivalent	°C	-	-	-	-	-10	-	-	-
		SCOP	(W/W)	-	-	-	-	4.6	-	-	-
		Annual consumption	kWh	-	-	-	-	1583	-	-	-
		elbu(-10°C)	kW	-	-	-	-	0.00	-	-	-
	Class		-	-	-	-	A++	-	-	-	
	Power factor		%	-	-	-	98	98	98	-	-
	Noise indoor *7	dB-A (H/M/L)		37 / 31 / 28			-			-	-
Power Level dB			52 / 46 / 43			-			-	-	
Noise outdoor	dB-A (H/L)		-			49 / -			-	-	
	Power Level dB		-			68 / -			-	-	
LOW TEMP		Total capacity(kW) / Input power(W) / COP	-			-			-		
EXTRA LOW TEMP		Total capacity(kW) / Input power(W) / COP	-			-			-		
Max Current(A) / Max Input power(W)			-	-	-	14.8 / 3.02k	14.8 / 3.12k	14.8 / 3.22k	-	-	
Starting current(A) (Cooling/Heating)			-	-	-	10.0 / 7.80	9.65 / 7.45	9.25 / 7.15	-	-	
Comp output(W)			-			2.00k	2.00k	2.00k	-	-	
Time Delay fuse max size(A)			-			20			-	-	
Network Impedance(ΩMAX.)			-			-			-	-	
Fan motor output (Indoor/Outdoor) W			60			40			-	-	
Moisture removal volume		L/h	2.5 (2.5 × 1)			-			-	-	
External static pressure		Pa	-			-			-	-	
Indoor Air flow *7	Cooling	m³/min (H/M/L)	22.0 / 16.0 / 13.0			-			-	-	
	Heating	m³/min (H/M/L)	22.0 / 16.0 / 13.0			-			-	-	
Outdoor Air flow	Cooling	m³/min	-			44.7			-	-	
	Heating	m³/min	-			45.9			-	-	
Refrigerant type / amount(ship) kg / amount(max) kg			-			R32	1.320	1.830	-	-	
F-Gas	GWP /		-			675	0.89	1.24	-	-	
	CO2eq (ton) (PRECHARGED AMOUNT) / CO2eq (ton) (MAXIMUM CHARGED AMOUNT)		-			-	-	-	-	-	
Product dimension	Height	mm	256			695			-	-	
	Width	mm	840			875			-	-	
	Depth	mm	840			320			-	-	
Product dimension (Panel)		H×W×D mm	33.5 × 950 × 950			-			-	-	
Packing dimension	Height	mm	302			761			-	-	
	Width	mm	898			1049			-	-	
	Depth	mm	898			460			-	-	
Weight	(NET)	kg	20			50			-	-	
	(GROSS)	kg	26			54			-	-	
	Panel (NET)	kg	5			-			-	-	
Layers limit (actually)			11 (12)			3 (4)			-	-	
Operation condition	Cool (DBT)		18°C ~ 32°C			-10°C ~ 43°C			-	-	
	Heat (DBT)		16°C ~ 30°C			-15°C ~ 24°C			-	-	
Max Working Pressure HP/LP MPa			4.15 / 2.55			-			-	-	
P I P I N G	Pipe port diameter mm (inch)		(Liquid)Ø9.52(3/8) (Gas)Ø15.88(5/8)			(Liquid)Ø6.35(1/4) (Gas)Ø15.88(5/8)			-	-	
	Pipe diameter mm (inch)		(Liquid)Ø6.35(1/4) (Gas)Ø15.88(5/8) *Connect the liquid socket tube(Ø9.52-Ø6.35) to the liquid tubing side indoor unit			-			-	-	
	Connecting method		flared type			flared type			-	-	
	Standard length m		-			5 m			-	-	
	Pipe length range m		-			3 ~ 40 m			-	-	
	Indoor unit & Outdoor unit height difference m		-			20 m(OD located lower) / 20 m(OD located higher)			-	-	
	Add gas amount g/m		-			17 g/m			-	-	
	Pipe length for additional gas m		-			10 m			-	-	

\* In the case of nanoe X OFF  
 \*1 In case it is necessary to indicate the air flow volume in (l/s), the value in (m³/min.) shall be multiplied by 16.7 and rounded down the decimal point.  
 \*2 If the EUROVENT Certified models can be operated under the "extra-low" temperature condition, -7°C dry bulb and -8°C wet-bulb temperatures with rated voltage 230V shall be used.  
 \*3 Network Impedance shall be applicable for EUROPE and CHINA models.  
 \*4 The annual consumption is calculated by multiplying the input power at 230V(400V) by an average of 500 hours per year in cooling mode.  
 \*5 EER and COP classification is at 230V(400V) only in accordance with EU directive 2002/31/EC.  
 \*6 SEER and SCOP classification is at 230V(400V) only in accordance with EN-14825. For heating, SCOP indicates the value of only Average heating season, Other fiche data indicates in an attached sheet.  
 \*7 H : High at setting 5 stage (Level 5), M : Middle at setting 5 stage (Level 3), L : Low at setting 5 stage (Level 1)

# Single - Type

## 1-1. Unit Specifications

**PZ3**

## 2. Middle Static Pressure Duct Type S-3650PF3E(36) / U-36PZ3E5

INDOOR		MODEL	S-3650PF3E(36)			-			-	
PANEL		MODEL	-			-			-	
OUTDOOR		MODEL	-			U-36PZ3E5			-	
Branch pipe		MODEL	-			-			-	
Performance test condition				ISO5151 / EN14511 / EN12102 / EN14825						
Power supply		Ø, Hz	1Ø 50Hz			1Ø 50Hz			Min	Max
		V	220V	230V	240V	220V	230V	240V		
C O O L I N G	Capacity	kW	3.4	3.4	3.4	-	-	-	1.5	4.0
		BTU/h	11600	11600	11600	-	-	-	5100	13600
	Current	A	-	-	-	4.15	4.00	3.85	-	-
		W	-	-	-	-	-	-	-	-
	Input power	TOTAL W	-	-	-	0.900k	0.900k	0.900k	0.300k	1.140k
		Annual consumption	TOTAL kWh **4	-	-	-	-	450	-	-
	EER/EER CLASS	TOTAL (W/W) **5 ("A"~"G")	-	-	-	3.78	3.78 / A	3.78	5.00	3.51
	ErP **6	Pdesign	kW	-	-	-	-	3.4	-	-
		SEER	(W/W)	-	-	-	-	6.0	-	-
		Annual consumption	kWh	-	-	-	-	198	-	-
Class			-	-	-	-	A+	-	-	
	Power factor	%	-	-	-	98	98	98	-	-
Noise indoor **7	dB-A (H/M/L)		30 / 27 / 22			-			-	-
	Power Level dB		53 / 50 / 45			-			-	-
Noise outdoor	dB-A (H/L)		-			46 / -			-	-
	Power Level dB		-			64 / -			-	-
H E A T I N G	Capacity	kW	3.4	3.4	3.4	-	-	-	1.5	4.6
		BTU/h	11600	11600	11600	-	-	-	5100	15700
	Current	A	-	-	-	3.85	3.70	3.50	-	-
		W	-	-	-	-	-	-	-	-
	Input power	TOTAL W	-	-	-	0.820k	0.820k	0.820k	0.280k	1.310k
		COP/COP CLASS	TOTAL (W/W) **5 ("A"~"G")	-	-	-	4.15	4.15 / A	4.15	5.36
	ErP **6	Pdesign at -10°C	kW	-	-	-	-	2.4	-	-
		Tbivalent	°C	-	-	-	-	-10	-	-
		SCOP	(W/W)	-	-	-	-	4.0	-	-
		Annual consumption	kWh	-	-	-	-	839	-	-
elbu(-10°C)		kW	-	-	-	-	0.00	-	-	
Class			-	-	-	-	A+	-	-	
	Power factor	%	-	-	-	97	97	97	-	-
Noise indoor **7	dB-A (H/M/L)		30 / 27 / 22			-			-	-
	Power Level dB		53 / 50 / 45			-			-	-
Noise outdoor	dB-A (H/L)		-			47 / -			-	-
	Power Level dB		-			66 / -			-	-
LOW TEMP	Total capacity(kW) / Input power(W) / COP		-	-	-	-	-	-	-	
EXTRALOW TEMP	Total capacity(kW) / Input power(W) / COP		-	-	-	-	-	-	-	
	Max Current(A) / Max Input power(W)		-	-	-	8.90 / 1.95k	8.90 / 1.99k	8.90 / 2.04k	-	
	Starting current(A) (Cooling/Heating)		-	-	-	4.15 / 3.85	4.00 / 3.70	3.85 / 3.50	-	
	Comp output(W)		-	-	-	1.10k	1.10k	1.10k	-	
	Time Delay fuse max size(A)		-	-	-	-	15	-	-	
	Network Impedance(QMAX.)		-	-	-	-	-	-	-	
	Fan motor output (Indoor/Outdoor) W		107			40			-	
	Moisture removal volume	L/h	0.9 (0.9 ×1)			-			-	
	External static pressure	Pa	30 (MIN10 - MAX150)			-			-	
Indoor Air flow **7	Cooling	m³/min (H/M/L)	14.0 / 13.0 / 10.0			-			-	
	Heating	m³/min (H/M/L)	14.0 / 13.0 / 10.0			-			-	
Outdoor Air flow	Cooling	m³/min	-			33.6			-	
	Heating	m³/min	-			34.0			-	
	Refrigerant type / amount(ship) kg / amount(max) kg		-			R32	0.870	0.950	-	
F-Gas	GWP / CO2eq (ton) (PRECHARGED AMOUNT) / CO2eq (ton) (MAXIMUM CHARGED AMOUNT)		-			675	0.59	0.64	-	
	Product dimension	Height mm	250			619			-	
	Width mm	800			824			-		
	Depth mm	730			299			-		
	Product dimension (Panel)	H×W×D mm	-			-			-	
Packing dimension	Height mm	805			680			-		
	Width mm	1065			958			-		
	Depth mm	340			416			-		
Weight	(NET) kg	25			32			-		
	(GROSS) kg	30			35			-		
	Panel (NET) kg	-			-			-		
	Layers limit (actually)		3 (4)			5 (6)			-	
Operation condition	Cool (DBT)		18°C ~ 32°C			-10°C ~ 43°C			-	
	Heat (DBT)		16°C ~ 30°C			-15°C ~ 24°C			-	
	Max Working Pressure HP/LP MPa		4.15 / 2.55			-			-	
P I P E I N G	Pipe port diameter mm (inch)		(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			-	
	Pipe diameter mm (inch)		(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			-			-	
	Connecting method		flared type			flared type			-	
	Standard length m		5 m			-			-	
	Pipe length range m		3 ~ 15 m			-			-	
	Indoor unit & Outdoor unit height difference m		15 m(OD located lower) / 15 m(OD located higher)			-			-	
	Add gas amount g/m		10 g/m			-			-	
	Pipe length for additional gas m		7.5 m			-			-	

\* In the case of standard installation (Horizontal installation in the ceiling, rear side air intake)

\*\* In the case of nanoe X OFF

\*\*1 In case it is necessary to indicate the air flow volume in (l/s), the value in (m³/min.) shall be multiplied by 16.7 and rounded down the decimal point.

\*\*2 If the EUROVENT Certified models can be operated under the "extra-low" temperature condition, -7°C dry bulb and -8°C wet-bulb temperatures with rated voltage 230V shall be used.

\*\*3 Network Impedance shall be applicable for EUROPE and CHINA models.

\*\*4 The annual consumption is calculated by multiplying the input power at 230V(400V) by an average of 500 hours per year in cooling mode.

\*\*5 EER and COP classification is at 230V(400V) only in accordance with EU directive 2002/31/EC.

\*\*6 SEER and SCOP classification is at 230V(400V) only in accordance with EN-14825. For heating, SCOP indicates the value of only Average heating season. Other fiche data indicates in an attached sheet.

\*\*7 H: High at setting 5 stage (Level 5), M: Middle at setting 5 stage (Level 3), L: Low at setting 5 stage (Level 1) Noise of L is indicated by the values at FAN mode

# Single - Type

## 1-1. Unit Specifications

**PZ3**

### 2. Middle Static Pressure Duct Type S-3650PF3E(50) / U-50PZ3E5

INDOOR		MODEL	S-3650PF3E(50)						-	-	
PANEL		MODEL							-	-	
OUTDOOR		MODEL				U-50PZ3E5			-	-	
Branch pipe		MODEL							-	-	
Performance test condition					ISO5151 / EN14511 / EN12102 / EN14825						
Power supply		Ø, Hz	1Ø 50Hz			1Ø 50Hz					
		V	220V	230V	240V	220V	230V	240V	Min	Max	
C O O L I N G	Capacity	kW	5.0	5.0	5.0	-	-	-	1.5	5.3	
		BTU/h	17100	17100	17100	-	-	-	5100	18100	
	Current	A	-	-	-	8.35	8.00	7.65	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-	-	-	1.800k	1.800k	1.800k	0.320k	1.920k	
		Annual consumption	TOTAL kWh <sup>**</sup>	-	-	-	900	-	-	-	-
	EER/EER CLASS	TOTAL (W/W) <sup>*/5</sup> ("A"~"G")	-	-	-	2.78	2.78 / D	2.78	4.69	2.76	
	ErP <sup>*6</sup>	Pdesign	kW	-	-	-	-	5.0	-	-	-
		SEER	(W/W)	-	-	-	-	6.5	-	-	-
		Annual consumption	kWh	-	-	-	-	267	-	-	-
Class			-	-	-	-	A++	-	-	-	
Power factor	%	-	-	-	98	98	98	-	-		
Noise indoor <sup>*7</sup>	dB-A (H/M/L)		34 / 30 / 25						-	-	
	Power Level dB		57 / 53 / 48						-	-	
Noise outdoor	dB-A (H/L)					46 / -			-	-	
	Power Level dB					64 / -			-	-	
H E A T I N G	Capacity	kW	5.0	5.0	5.0	-	-	-	1.5	5.9	
		BTU/h	17100	17100	17100	-	-	-	5100	20100	
	Current	A	-	-	-	6.45	6.20	5.95	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-	-	-	1.380k	1.380k	1.380k	0.280k	1.930k	
		COP/COP CLASS	TOTAL (W/W) <sup>*/5</sup> ("A"~"G")	-	-	-	3.62	3.62 / A	3.62	5.36	3.06
	ErP <sup>*6</sup>	Pdesign at -10°C	kW	-	-	-	-	3.8	-	-	-
		Tbivalent	°C	-	-	-	-	-10	-	-	-
		SCOP	(W/W)	-	-	-	-	4.0	-	-	-
		Annual consumption	kWh	-	-	-	-	1303	-	-	-
elbu(-10°C)	kW	-	-	-	-	0.00	-	-	-	-	
	Class		-	-	-	-	A+	-	-	-	
Power factor	%	-	-	-	97	97	97	-	-		
Noise indoor <sup>*7</sup>	dB-A (H/M/L)		34 / 30 / 25						-	-	
	Power Level dB		57 / 53 / 48						-	-	
Noise outdoor	dB-A (H/L)					46 / -			-	-	
	Power Level dB					64 / -			-	-	
LOW TEMP	Total capacity(kW) / Input power(W) / COP					-	-	-	-	-	
EXTRALOW TEMP	Total capacity(kW) / Input power(W) / COP					-	-	-	-	-	
Max Current(A) / Max Input power(W)			-	-	-	10.5 / 2.20k	10.5 / 2.25k	10.5 / 2.30k	-	-	
Starting current(A) (Cooling/Heating)			-	-	-	8.35 / 6.45	8.00 / 6.20	7.65 / 5.95	-	-	
Comp output(W)			-	-	-	1.50k	1.50k	1.50k	-	-	
Time Delay fuse max size(A)			-	-	-	-	15	-	-	-	
Network Impedance(QMAX.)			-	-	-	-	-	-	-	-	
Fan motor output (Indoor/Outdoor) W			107						40	-	
Moisture removal volume		L/h	1.9 (1.9 ×1)						-	-	
External static pressure		Pa	30 (MIN10 - MAX150)						-	-	
Indoor Air flow <sup>*7</sup>	Cooling	m³/min (H/M/L)	16.0 / 15.0 / 12.0						-	-	
	Heating	m³/min (H/M/L)	16.0 / 15.0 / 12.0						-	-	
Outdoor Air flow	Cooling	m³/min				32.7			-	-	
	Heating	m³/min				31.9			-	-	
Refrigerant type / amount(ship) kg / amount(max) kg						R32	1.140	1.330	-	-	
F-Gas	GWP / CO2eq (ton) (PRECHARGED AMOUNT) / CO2eq (ton) (MAXIMUM CHARGED AMOUNT)					675	0.77	0.90	-	-	
	Product dimension	Height mm	250			619			-	-	
Width mm		800			824			-	-		
Depth mm		730			299			-	-		
Product dimension (Panel)	H×W×D mm							-	-		
	Height mm	805			680			-	-		
	Width mm	1065			958			-	-		
Packing dimension	Depth mm	340			416			-	-		
	(NET) kg	25			35			-	-		
	(GROSS) kg	30			38			-	-		
Weight	Panel (NET) kg							-	-		
	Layers limit (actually)		3 (4)			5 (6)			-	-	
Operation condition	Cool (DBT)		18°C ~ 32°C			-10°C ~ 43°C			-	-	
	Heat (DBT)		16°C ~ 30°C			-15°C ~ 24°C			-	-	
Max Working Pressure HP/LP MPa			4.15 / 2.55						-	-	
P I P E I N G	Pipe port diameter mm (inch)		(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			-	-	
	Pipe diameter mm (inch)					(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			-	-	
	Connecting method		flared type			flared type			-	-	
	Standard length m					5 m			-	-	
	Pipe length range m					3 ~ 20 m			-	-	
	Indoor unit & Outdoor unit height difference m		15 m(OD located lower) / 15 m(OD located higher)						-	-	
	Add gas amount g/m					15 g/m			-	-	
Pipe length for additional gas m					7.5 m			-	-		

\* In the case of standard installation (Horizontal installation in the ceiling, rear side air intake)  
 \* In the case of nanoe X OFF  
 \*1 In case it is necessary to indicate the air flow volume in (l/s), the value in (m³/min.) shall be multiplied by 16.7 and rounded down the decimal point.  
 \*2 If the EUROVENT Certified models can be operated under the "extra-low" temperature condition, -7°C dry bulb and -8°C wet-bulb temperatures with rated voltage 230V shall be used.  
 \*3 Network Impedance shall be applicable for EUROPE and CHINA models.  
 \*4 The annual consumption is calculated by multiplying the input power at 230V(400V) by an average of 500 hours per year in cooling mode.  
 \*5 EER and COP classification is at 230V(400V) only in accordance with EU directive 2002/31/EC.  
 \*6 SEER and SCOP classification is at 230V(400V) only in accordance with EN-14825. For heating, SCOP indicates the value of only Average heating season. Other fiche data indicates in an attached sheet.  
 \*7 H: High at setting 5 stage (Level 5), M: Middle at setting 5 stage (Level 3), L: Low at setting 5 stage (Level 1) Noise of L is indicated by the values at FAN mode

# Single - Type

## 1-1. Unit Specifications

**PZ3**

## 2. Middle Static Pressure Duct Type S-6071PF3E(60) / U-60PZ3E5

INDOOR		MODEL	S-6071PF3E(60)			-			-		
PANEL		MODEL	-			-			-		
OUTDOOR		MODEL	-			U-60PZ3E5			-		
Branch pipe		MODEL	-			-			-		
Performance test condition			ISO5151 / EN14511 / EN12102 / EN14825								
Power supply		Ø, Hz	1Ø 50Hz			1Ø 50Hz					
		V	220V	230V	240V	220V	230V	240V	Min	Max	
C O O L I N G	Capacity	kW	5.7	5.7	5.7	-	-	-	2.0	6.3	
		BTU/h	19400	19400	19400	-	-	-	6800	21500	
	Current	A	-	-	-	7.45	7.15	6.85	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-	-	-	1.610k	1.610k	1.610k	0.340k	2.400k	
		TOTAL kWh <sup>*4</sup>	-	-	-	-	805	-	-	-	
	EER/EER CLASS	TOTAL (W/W) <sup>*5</sup> ("A"~"G")	-	-	-	3.54	3.54 / A	3.54	5.88	2.63	
	ErP <sup>*6</sup>	Pdesign	kW	-	-	-	-	5.7	-	-	-
		SEER	(W/W)	-	-	-	-	6.4	-	-	-
		Annual consumption	kWh	-	-	-	-	310	-	-	-
Class			-	-	-	-	A++	-	-	-	
Power factor	%	-	-	-	98	98	98	-	-		
Noise indoor <sup>*7</sup>	dB-A (H/M/L)		30 / 26 / 23			-			-	-	
	Power Level dB		53 / 49 / 46			-			-	-	
Noise outdoor	dB-A (H/L)		-			47 / -			-	-	
	Power Level dB		-			64 / -			-	-	
H E A T I N G	Capacity	kW	5.7	5.7	5.7	-	-	-	1.8	7.0	
		BTU/h	19400	19400	19400	-	-	-	6100	23900	
	Current	A	-	-	-	6.55	6.25	6.00	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-	-	-	1.410k	1.410k	1.410k	0.290k	2.480k	
		TOTAL kWh <sup>*4</sup>	-	-	-	-	-	-	-	-	
	COP/COP CLASS	TOTAL (W/W) <sup>*5</sup> ("A"~"G")	-	-	-	4.04	4.04 / A	4.04	6.21	2.82	
	ErP <sup>*6</sup>	Pdesign at -10°C	kW	-	-	-	-	4.4	-	-	-
		Tbivalent	°C	-	-	-	-	-10	-	-	-
		SCOP	(W/W)	-	-	-	-	4.4	-	-	-
Annual consumption		kWh	-	-	-	-	1376	-	-	-	
elbu(-10°C)	kW	-	-	-	-	0.00	-	-	-	-	
	Class		-	-	-	-	A+	-	-	-	
Power factor	%	-	-	-	98	98	98	-	-		
Noise indoor <sup>*7</sup>	dB-A (H/M/L)		30 / 26 / 23			-			-	-	
	Power Level dB		53 / 49 / 46			-			-	-	
Noise outdoor	dB-A (H/L)		-			48 / -			-	-	
	Power Level dB		-			65 / -			-	-	
LOW TEMP	Total capacity(kW) / Input power(W) / COP		-			-			-		
EXTRALOW TEMP	Total capacity(kW) / Input power(W) / COP		-			-			-		
Max Current(A) / Max Input power(W)			-	-	-	13.1 / 2.60k	13.1 / 2.65k	13.1 / 2.70k	-		
Starting current(A) (Cooling/Heating)			-	-	-	7.45 / 6.55	7.15 / 6.25	6.85 / 6.00	-		
Comp output(W)			-			1.70k	1.70k	1.70k	-		
Time Delay fuse max size(A)			-			20			-		
Network Impedance(QMAX.)			-			-			-		
Fan motor output (Indoor/Outdoor) W			165			40			-		
Moisture removal volume		L/h	1.7 (1.7 ×1)			-			-		
External static pressure		Pa	30 (MIN10 - MAX150)			-			-		
Indoor Air flow <sup>*7</sup>	Cooling	m³/min (H/M/L)	21.0 / 19.0 / 15.0			-			-		
	Heating	m³/min (H/M/L)	21.0 / 19.0 / 15.0			-			-		
Outdoor Air flow	Cooling	m³/min	-			42.6			-		
	Heating	m³/min	-			41.5			-		
Refrigerant type / amount(ship) kg / amount(max) kg			-			R32	1.150	1.490	-		
F-Gas	GWP / CO2eq (ton) (PRECHARGED AMOUNT) / CO2eq (ton) (MAXIMUM CHARGED AMOUNT)		-			675	0.78	1.01	-		
	Product dimension		Height mm	250			695			-	
		Width mm	1000			875			-		
		Depth mm	730			320			-		
Product dimension (Panel)		H×W×D mm	-			-			-		
Packing dimension	Height mm		805			761			-		
	Width mm		1265			1049			-		
	Depth mm		340			460			-		
Weight	(NET) kg		30			42			-		
	(GROSS) kg		36			46			-		
	Panel (NET) kg		-			-			-		
Layers limit (actually)			3 (4)			3 (4)			-		
Operation condition	Cool (DBT)		18°C ~ 32°C			-10°C ~ 43°C			-		
	Heat (DBT)		16°C ~ 30°C			-15°C ~ 24°C			-		
Max Working Pressure HP/LP MPa			4.15 / 2.55			-			-		
P I P I N G	Pipe port diameter mm (inch)		(Liquid)Ø9.52(3/8) (Gas)Ø15.88(5/8)			(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			-		
	Pipe diameter mm (inch)		(Liquid)Ø6.35(1/4) (Gas)Ø12.7(1/2)			*Connect the gas socket tube(Ø15.88-Ø12.7) to the gas tubing side indoor unit *Connect the liquid socket tube(Ø9.52-Ø6.35) to the liquid tubing side indoor unit			-		
	Connecting method		flared type			flared type			-		
	Standard length m		5 m			-			-		
	Pipe length range m		3 ~ 30 m			-			-		
	Indoor unit & Outdoor unit height difference m		15 m(OD located lower) / 15 m(OD located higher)			-			-		
	Add gas amount g/m		15 g/m			-			-		
Pipe length for additional gas m		7.5 m			-			-			

\* In the case of standard installation (Horizontal installation in the ceiling, rear side air intake)

\* In the case of nanoe X OFF

\*1 In case it is necessary to indicate the air flow volume in (l/s), the value in (m³/min.) shall be multiplied by 16.7 and rounded down the decimal point.

\*2 If the EUROVENT Certified models can be operated under the "extra-low" temperature condition, -7°C dry bulb and -8°C wet-bulb temperatures with rated voltage 230V shall be used.

\*3 Network Impedance shall be applicable for EUROPE and CHINA models.

\*4 The annual consumption is calculated by multiplying the input power at 230V(400V) by an average of 500 hours per year in cooling mode.

\*5 EER and COP classification is at 230V(400V) only in accordance with EU directive 2002/31/EC.

\*6 SEER and SCOP classification is at 230V(400V) only in accordance with EN-14825. For heating, SCOP indicates the value of only Average heating season, Other fiche data indicates in an attached sheet.

\*7 H: High at setting 5 stage (Level 5), M: Middle at setting 5 stage (Level 3), L: Low at setting 5 stage (Level 1) Noise of L is indicated by the values at FAN mode

# Single - Type

## 1-1. Unit Specifications

**PZ3**

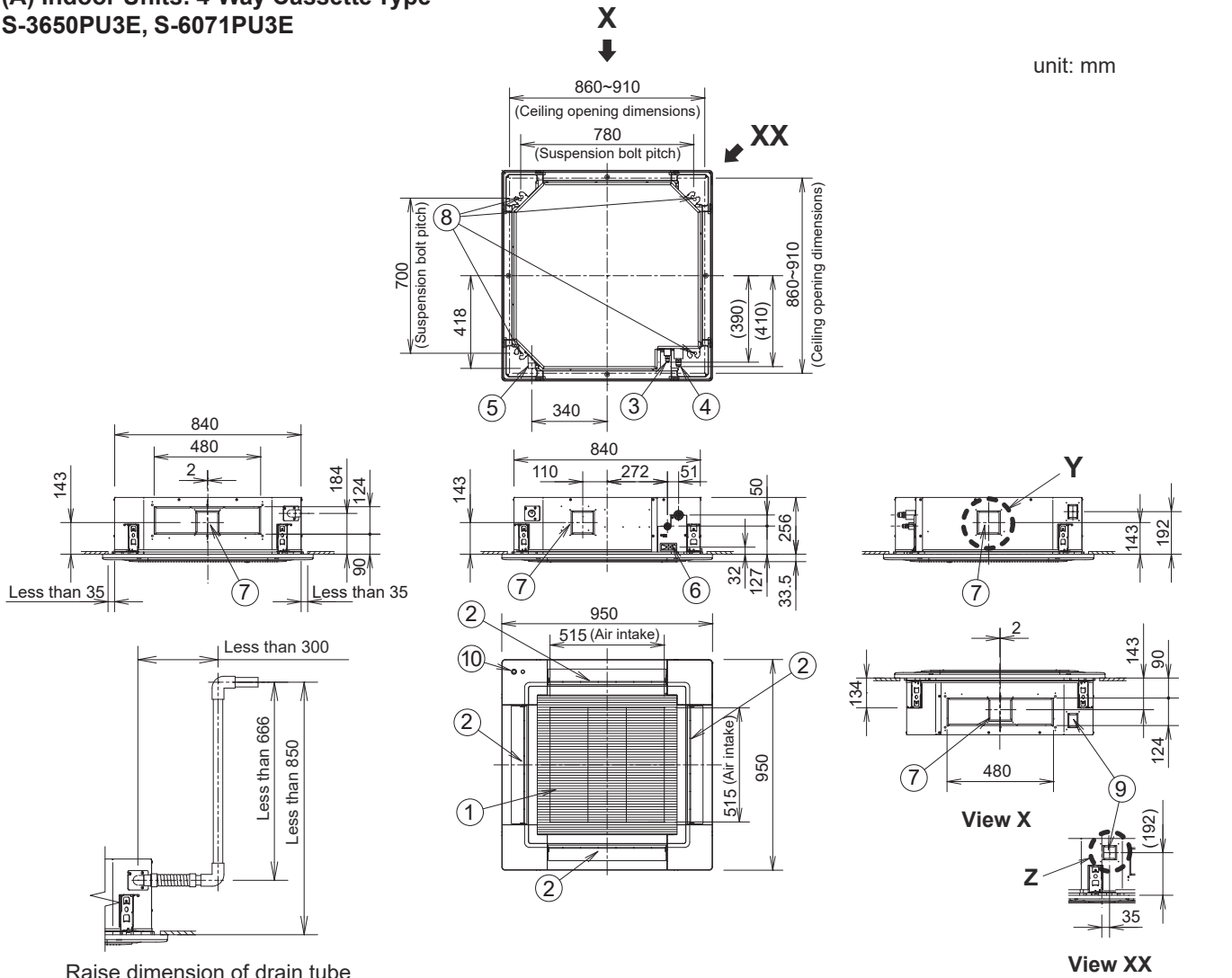
### 2. Middle Static Pressure Duct Type S-6071PF3E(71) / U-71PZ3E5

INDOOR		MODEL	S-6071PF3E(71)			-			-		
PANEL		MODEL	-			-			-		
OUTDOOR		MODEL	-			U-71PZ3E5			-		
Branch pipe		MODEL	-			-			-		
Performance test condition			ISO5151 / EN14511 / EN12102 / EN14825								
Power supply		Ø, Hz	1Ø 50Hz			1Ø 50Hz			Min	Max	
		V	220V	230V	240V	220V	230V	240V			
C O O L I N G	Capacity	kW	6.8	6.8	6.8	-	-	-	2.6	7.7	
		BTU/h	23200	23200	23200	-	-	-	8900	26300	
	Current	A	-	-	-	9.95	9.50	9.10	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-	-	-	2.140k	2.140k	2.140k	0.570k	2.860k	
		TOTAL kWh <sup>**4</sup>	-	-	-	-	1070	-	-	-	
	EER/EER CLASS	TOTAL (W/W) <sup>**5</sup> ("A"~"G")	-	-	-	3.18	3.18 / B	3.18	4.56	2.69	
	ErP <sup>**6</sup>	Pdesign	kW	-	-	-	-	6.8	-	-	
		SEER	(W/W)	-	-	-	-	6.0	-	-	
		Annual consumption	kWh	-	-	-	-	391	-	-	
Power factor	Class	-	-	-	-	A+	-	-	-		
	%	-	-	-	98	98	98	-	-		
Noise indoor <sup>**7</sup>	dB-A (H/M/L)	30 / 26 / 23			-			-	-		
	Power Level dB	53 / 49 / 46			-			-	-		
Noise outdoor	dB-A (H/L)	-			48 / -			-	-		
	Power Level dB	-			66 / -			-	-		
H E A T I N G	Capacity	kW	6.8	6.8	6.8	-	-	-	2.1	8.1	
		BTU/h	23200	23200	23200	-	-	-	7200	27600	
	Current	A	-	-	-	7.90	7.55	7.25	-	-	
		W	-	-	-	-	-	-	-	-	
	Input power	TOTAL W	-	-	-	1.700k	1.700k	1.700k	0.370k	2.670k	
		TOTAL kWh <sup>**4</sup>	-	-	-	-	-	-	-	-	
	COP/COP CLASS	TOTAL (W/W) <sup>**5</sup> ("A"~"G")	-	-	-	4.00	4.00 / A	4.00	5.68	3.03	
	ErP <sup>**6</sup>	Pdesign at -10°C	kW	-	-	-	-	4.7	-	-	
		Tbivalent °C	-	-	-	-	-	-10	-	-	
		SCOP	(W/W)	-	-	-	-	4.1	-	-	
Annual consumption		kWh	-	-	-	-	1591	-	-		
elbu(-10°C)		kW	-	-	-	-	0.00	-	-		
Power factor	Class	-	-	-	-	A+	-	-	-		
	%	-	-	-	98	98	98	-	-		
Noise indoor <sup>**7</sup>	dB-A (H/M/L)	30 / 26 / 23			-			-	-		
	Power Level dB	53 / 49 / 46			-			-	-		
Noise outdoor	dB-A (H/L)	-			49 / -			-	-		
	Power Level dB	-			68 / -			-	-		
LOW TEMP	Total capacity(kW) / Input power(W) / COP		-			-			-		
EXTRALOW TEMP	Total capacity(kW) / Input power(W) / COP		-			-			-		
Max Current(A) / Max Input power(W)		-		-		14.8 / 3.02k	14.8 / 3.12k	14.8 / 3.22k	-		
Starting current(A) (Cooling/Heating)		-		-		9.95 / 7.90	9.50 / 7.55	9.10 / 7.25	-		
Comp output(W)		-		-		2.00k	2.00k	2.00k	-		
Time Delay fuse max size(A)		-		-		20			-		
Network Impedance(QMAX.)		-		-		-			-		
Fan motor output (Indoor/Outdoor) W		-		165		40			-		
Moisture removal volume		L/h	2.7 (2.7 ×1)			-			-		
External static pressure		Pa	30 (MIN10 - MAX150)			-			-		
Indoor Air flow <sup>**7</sup>	Cooling	m³/min (H/M/L)	21.0 / 19.0 / 15.0			-			-		
	Heating	m³/min (H/M/L)	21.0 / 19.0 / 15.0			-			-		
Outdoor Air flow	Cooling	m³/min	-			44.7			-		
	Heating	m³/min	-			45.9			-		
Refrigerant type / amount(ship) kg / amount(max) kg		-		-		R32	1.320	1.830	-		
F-Gas	GWP / CO2eq (ton) (PRECHARGED AMOUNT) / CO2eq (ton) (MAXIMUM CHARGED AMOUNT)		-		-		675	0.89	1.24	-	
	Product dimension	Height	mm	250			695			-	
Width		mm	1000			875			-		
Depth		mm	730			320			-		
Product dimension (Panel)		H×W×D	mm			-			-		
Packing dimension	Height	mm	805			761			-		
	Width	mm	1265			1049			-		
	Depth	mm	340			460			-		
Weight	(NET)	kg	30			50			-		
	(GROSS)	kg	36			54			-		
	Panel (NET)	kg	-			-			-		
Layers limit (actually)		-		3 (4)		3 (4)			-		
Operation condition	Cool (DBT)	18°C ~ 32°C			-10°C ~ 43°C			-			
	Heat (DBT)	16°C ~ 30°C			-15°C ~ 24°C			-			
Max Working Pressure HP/LP		MPa		4.15 / 2.55			-				
P I P I N G	Pipe port diameter mm (inch)		(Liquid)Ø9.52(3/8) (Gas)Ø15.88(5/8)			(Liquid)Ø6.35(1/4) (Gas)Ø15.88(5/8)			-		
	Pipe diameter mm (inch)		(Liquid)Ø6.35(1/4) (Gas)Ø15.88(5/8) *Connect the liquid socket tube(Ø9.52-Ø6.35) to the liquid tubing side indoor unit			flared type			-		
	Connecting method		-			flared type			-		
	Standard length		m			5 m			-		
	Pipe length range		m			3 ~ 40 m			-		
	Indoor unit & Outdoor unit height difference		m			20 m(OD located lower) / 20 m(OD located higher)			-		
	Add gas amount		g/m			17 g/m			-		
Pipe length for additional gas		m			10 m			-			

\* In the case of standard installation (Horizontal installation in the ceiling, rear side air intake)  
 \* In the case of noice X OFF  
 \*\*1 In case it is necessary to indicate the air flow volume in (l/s), the value in (m³/min.) shall be multiplied by 16.7 and rounded down the decimal point.  
 \*\*2 If the EUROVENT Certified models can be operated under the "extra-low" temperature condition, -7°C dry bulb and -8°C wet-bulb temperatures with rated voltage 230V shall be used.  
 \*\*3 Network Impedance shall be applicable for EUROPE and CHINA models.  
 \*\*4 The annual consumption is calculated by multiplying the input power at 230V(400V) by an average of 500 hours per year in cooling mode.  
 \*\*5 EER and COP classification is at 230V(400V) only in accordance with EU directive 2002/31/EC.  
 \*\*6 SEER and SCOP classification is at 230V(400V) only in accordance with EN-14825. For heating, SCOP indicates the value of only Average heating season. Other fiche data indicates in an attached sheet.  
 \*\*7 H: High at setting 5 stage (Level 5), M: Middle at setting 5 stage (Level 3), L: Low at setting 5 stage (Level 1) Noise of L is indicated by the values at FAN mode

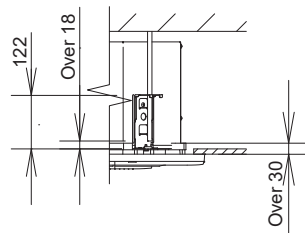
**1-2. Dimensional Data**  
**(A) Indoor Units: 4-Way Cassette Type**  
**S-3650PU3E, S-6071PU3E**

unit: mm



Raise dimension of drain tube

The length of the suspension bolts should be selected so that there is a gap of 30 mm or more below the lower surface of the ceiling (18 mm or more below the lower surface of the main unit), as shown in the figure at right. If the suspension bolt is too long, it will contact the ceiling panel and the unit cannot be installed.



①	Air intake
②	Discharge outlet
③	Refrigerant tubing joint (liquid tube) S-3650PU3E : $\phi 6.35$ (flared) S-6071PU3E : $\phi 9.52$ (flared) *1
④	Refrigerant tubing joint (gas tube) S-3650PU3E : $\phi 12.7$ (flared) S-6071PU3E(60) : $\phi 15.88$ (flared) *2 S-6071PU3E(71) : $\phi 15.88$ (flared)
⑤	Drain tube connection port VP25 (outer dia. $\phi 32$ )
⑥	Power supply port
⑦	Discharge duct connection port ( $\phi 150$ )
⑧	Suspension bolt hole (4-12 $\times$ 30 elongated hole)
⑨	Fresh air intake duct connection port ( $\phi 100$ ) *3
⑩	ECONAVI sensor (CZ-KPU3A or CZ-KPU3AW)

\*1 Connect the liquid socket tube ( $\phi 9.52$ - $\phi 6.35$ ) to the liquid tubing side indoor unit.

\*2 Connect the gas socket tube ( $\phi 15.88$ - $\phi 12.7$ ) to the gas tubing side indoor unit.

\*3 Necessary to attach duct connecting flange (field supplied).

**<Filter dimension>**

520  $\times$  520  $\times$  15

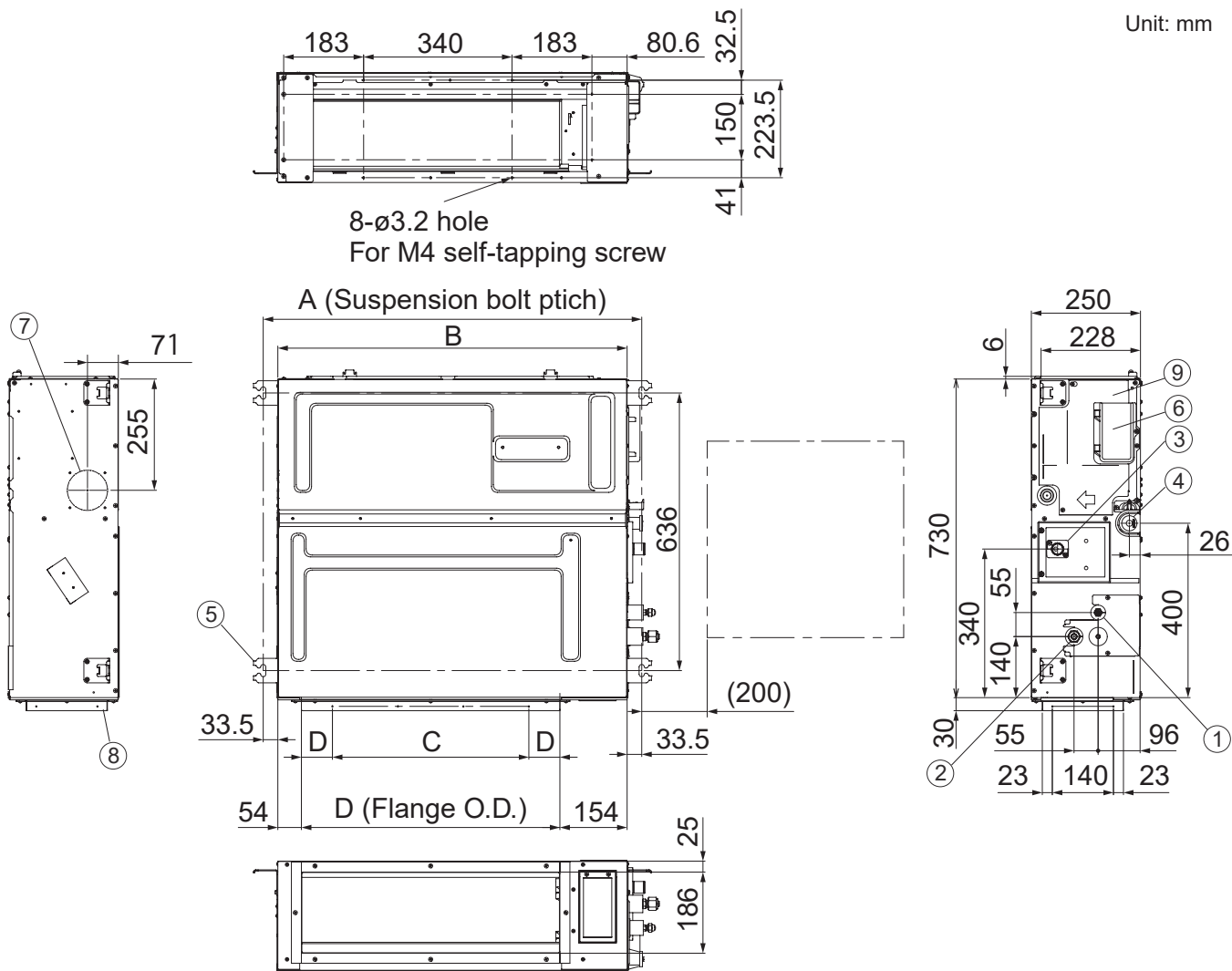
1-2. Dimensional Data

(A) Indoor Units: S-3650PF3E, S-6071PF3E

Unit: mm

Type	A	B	C	D	E	F
3650	867	800	450 (Pitch 150 × 3)	71	592	12
6071	1,067	1,000	750 (Pitch 150 × 5)	21	792	16

Unit: mm



①	Refrigerant tubing joint (liquid tube) S-3650PF3E : ø6.35 (flared) S-6071PF3E : ø9.52 (flared) *1
②	Refrigerant tubing joint (gas tube) S-3650PF3E : ø12.7 (flared) S-6071PF3E(60) : ø15.88 (flared) *2 S-6071PF3E(71) : ø15.88 (flared)
③	Upper drain port VP20 (ø26 mm) 200 mm flexible hose supplied
④	Bottom drain port VP20 (ø26 mm)
⑤	Suspension lug (4 – 12 × 30 mm)
⑥	Power supply outlet
⑦	Fresh air intake port (ø100 mm)
⑧	Flange for flexible air outlet duct
⑨	Electrical component box

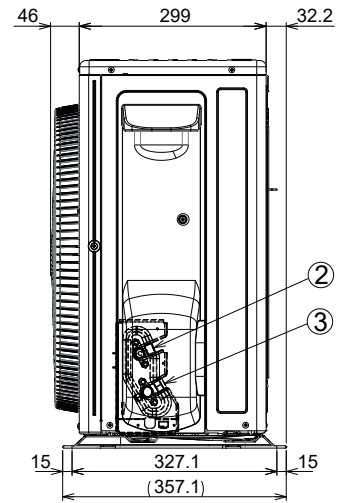
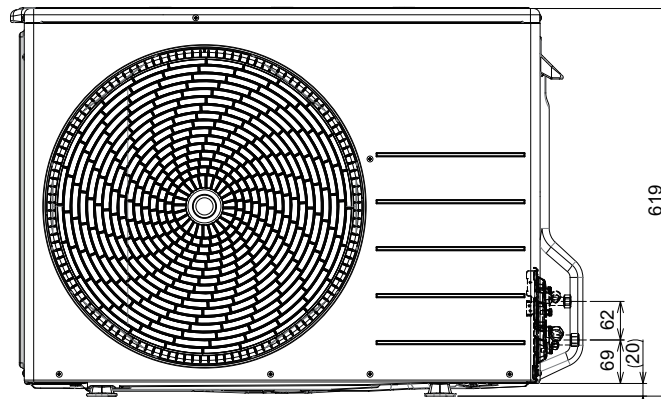
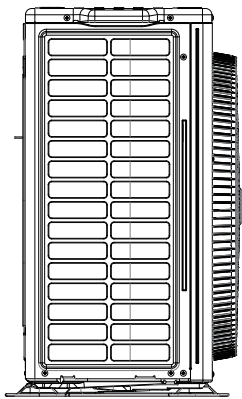
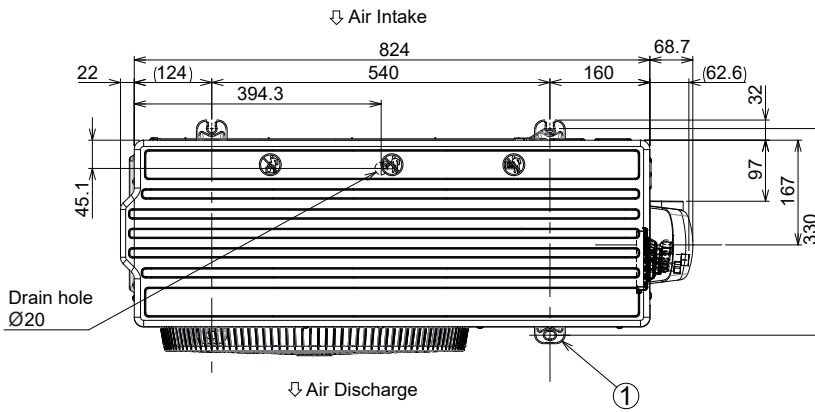
\*1 Connect the liquid socket tube (ø9.52-ø6.35) to the liquid tubing side indoor unit.

\*2 Connect the gas socket tube (ø15.88-ø12.7) to the gas tubing side indoor unit.

1-2. Dimensional Data

(B) Outdoor Units: U-36PZ3E5, U-50PZ3E5

①	Mounting Hole (4-R6.5), anchor bolt:M10
②	Refrigerant tubing(liquid tube), flared connection (Ø6.35)
③	Refrigerant tubing(gas tube), flared connection(Ø12.7)

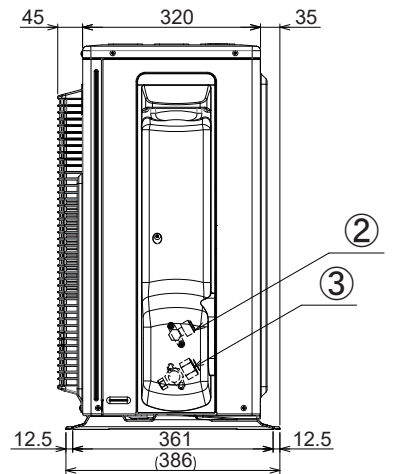
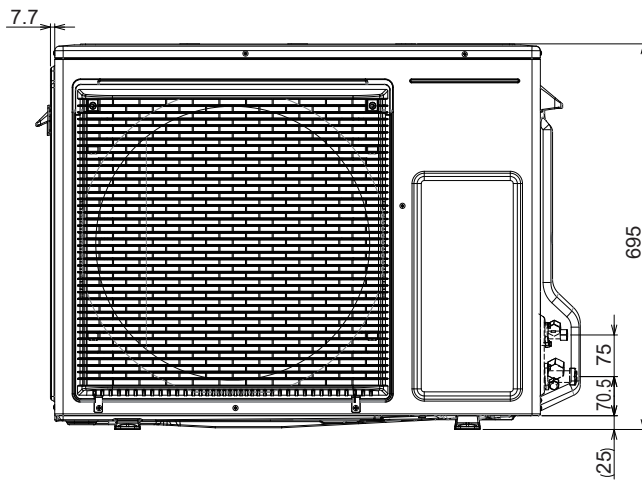
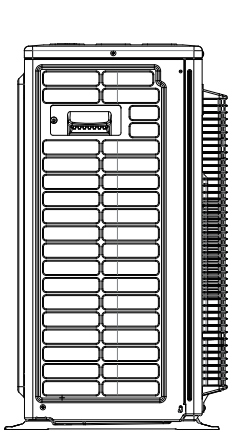
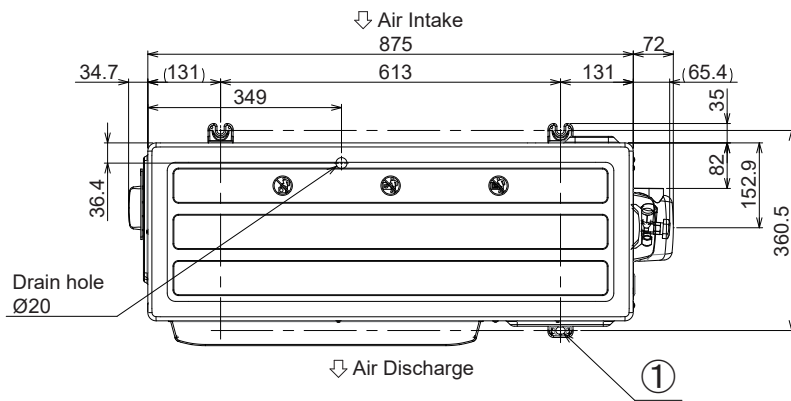




1-2. Dimensional Data

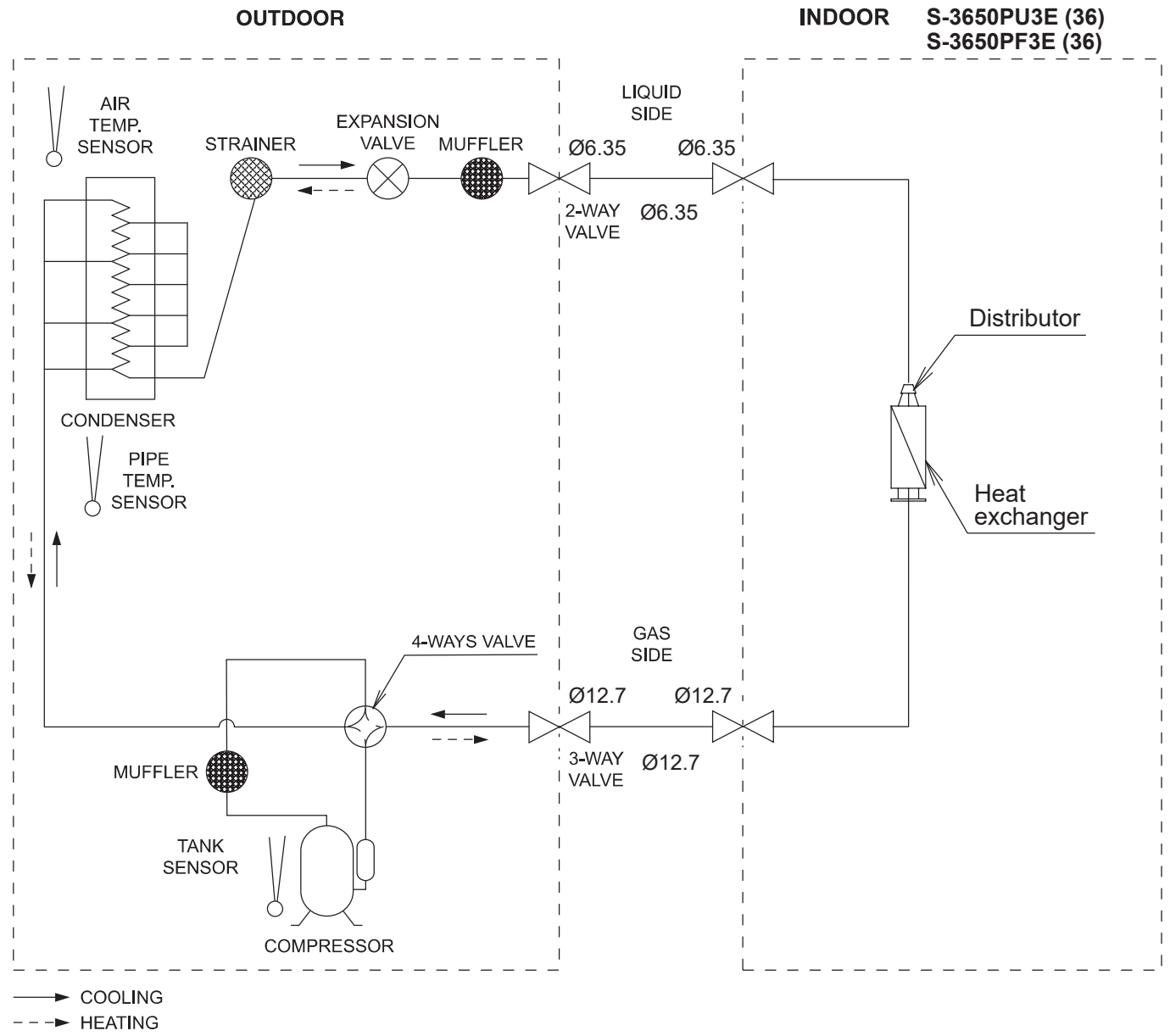
(B) Outdoor Units: U-60PZ3E5, U-71PZ3E5

①	Mounting hole (4-R6.5), anchor bolt : M10
②	Refrigerant tubing (liquid tube), flared connection (Ø 6.35)
③	Refrigerant tubing (gas tube), flared connection U-60PZ3E5 (Ø 12.7) U-71PZ3E5 (Ø 15.88)



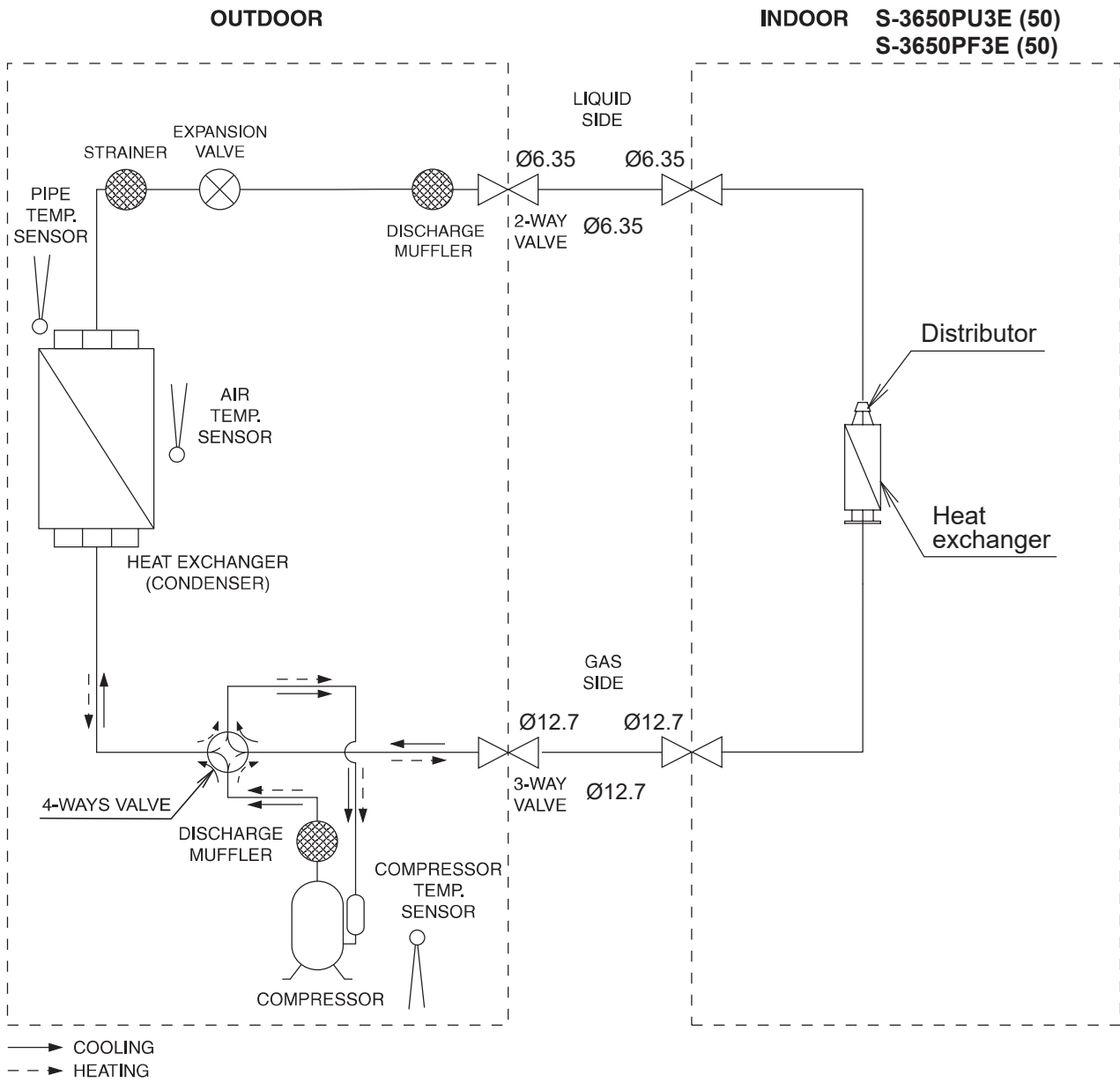
1-3. Refrigerant Flow Diagram

Outdoor Units: U-36PZ3E5



1-3. Refrigerant Flow Diagram

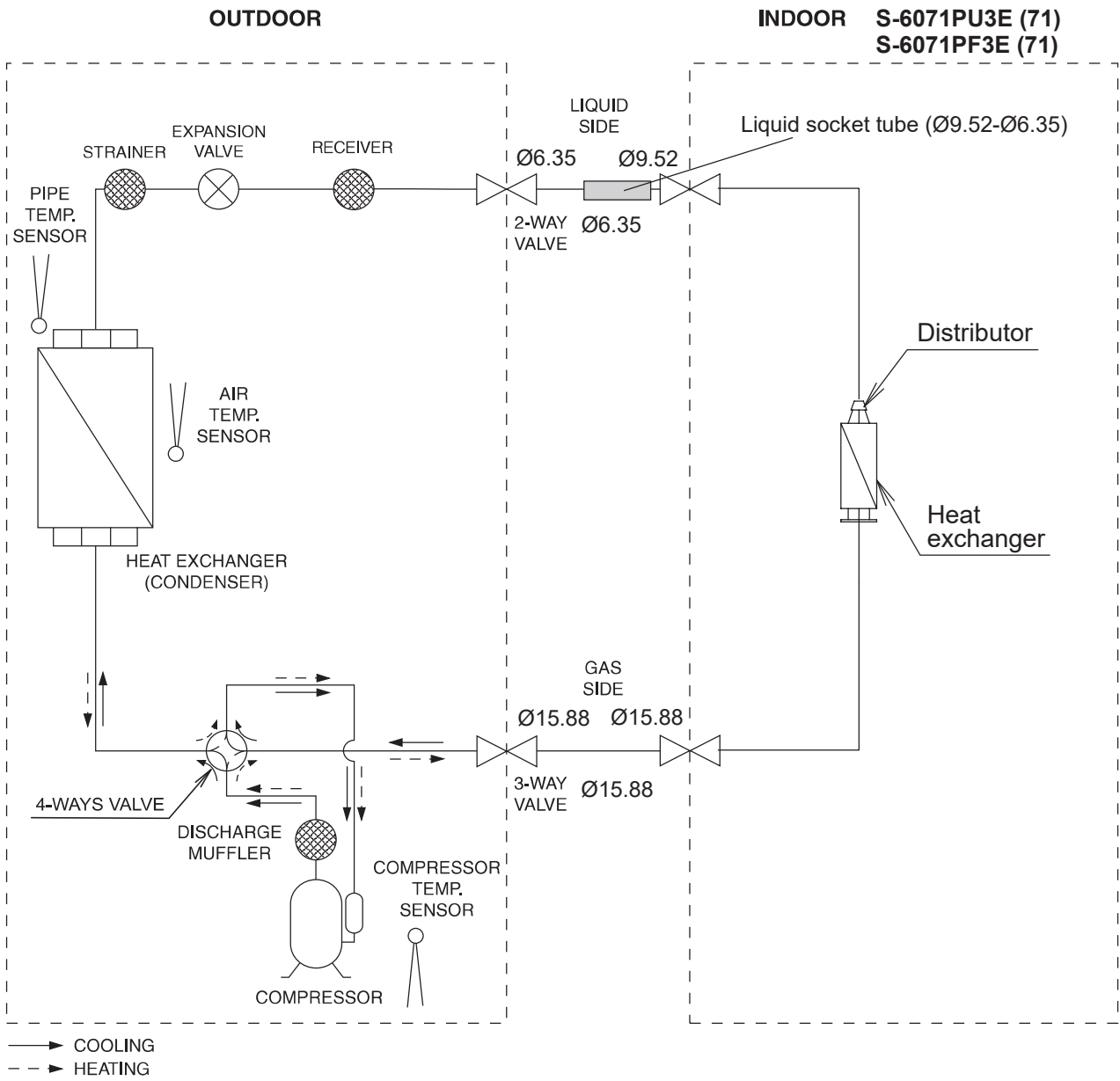
Outdoor Unit: U-50PZ3E5





1-3. Refrigerant Flow Diagram

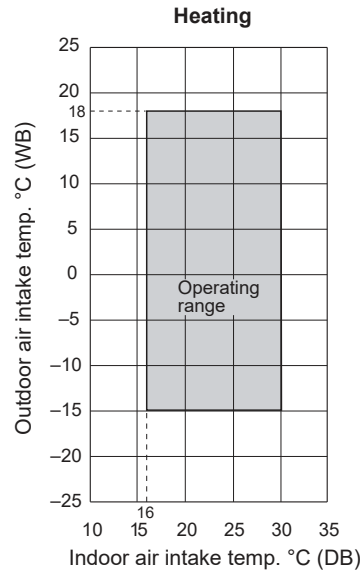
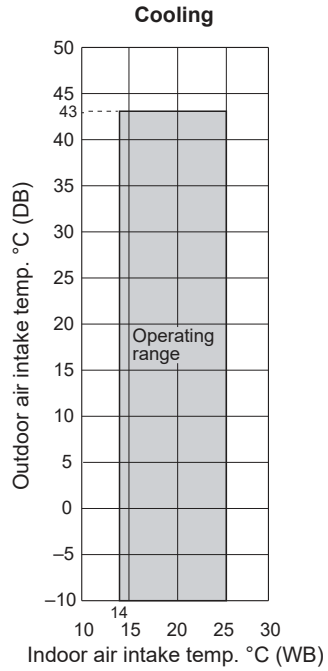
Outdoor Unit: U-71PZ3E5



## 1-4. Operating Range

### Type PZ3

	Temperature	Indoor air intake temp.	Outdoor air intake temp.
Cooling	Maximum	32°C DB / 25°C WB	43°C DB
	Minimum	18°C DB / 14°C WB	-10°C DB
Heating	Maximum	30°C DB / – WB	24°C DB/18°C WB
	Minimum	16°C DB / – WB	-15°C DB / -15°C WB

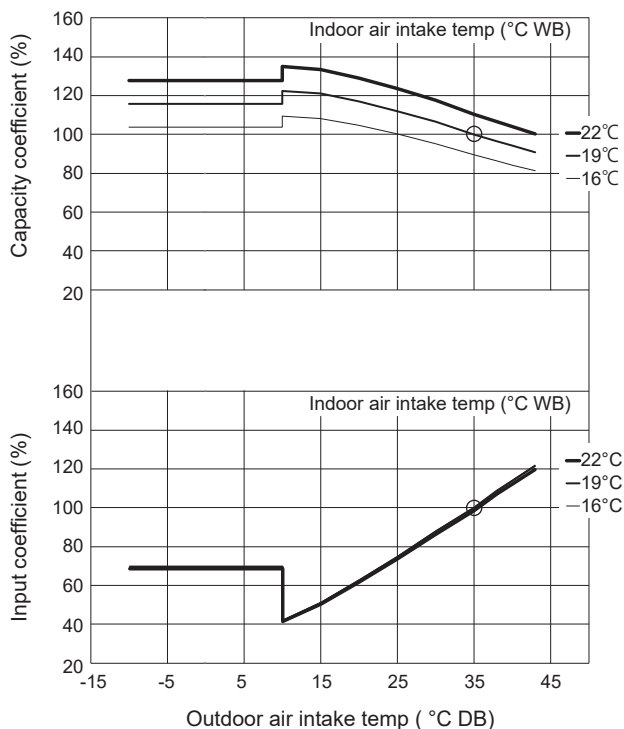


1-5. Capacity Correction Graph According to Temperature Condition

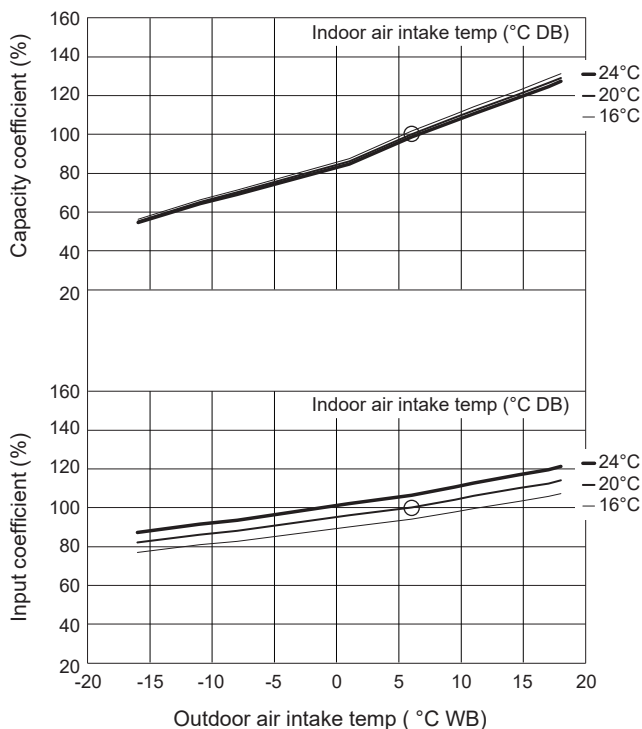
PZ3

U-36PZ3E5 (For 50 Hz)

Cooling capacity ratio (maximum capacity)



Heating capacity ratio (maximum capacity)



Outdoor unit heating capacity correction coefficient during of frosting/defrosting

Outdoor intake air temperature °C WB	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Correction coefficient	0.935	0.933	0.931	0.929	0.927	0.925	0.919	0.913	0.907	0.901	0.894	0.888	0.882	0.876	0.876	0.892	0.907	0.923	0.938	0.954	0.969	0.985	1.000

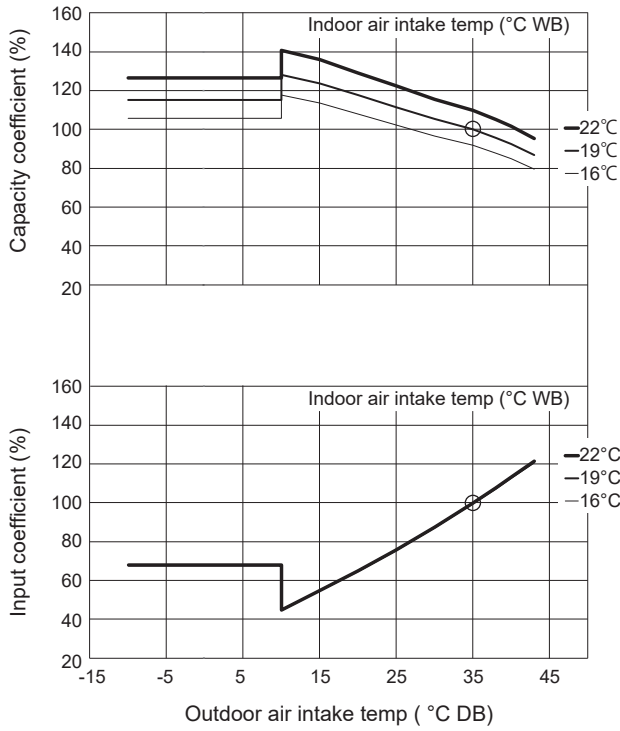
To calculate the heating capacity with consideration for frosting/defrosting operation, multiply the heating capacity found from the capacity graph by the correction coefficient from the table above.

1-5. Capacity Correction Graph According to Temperature Condition

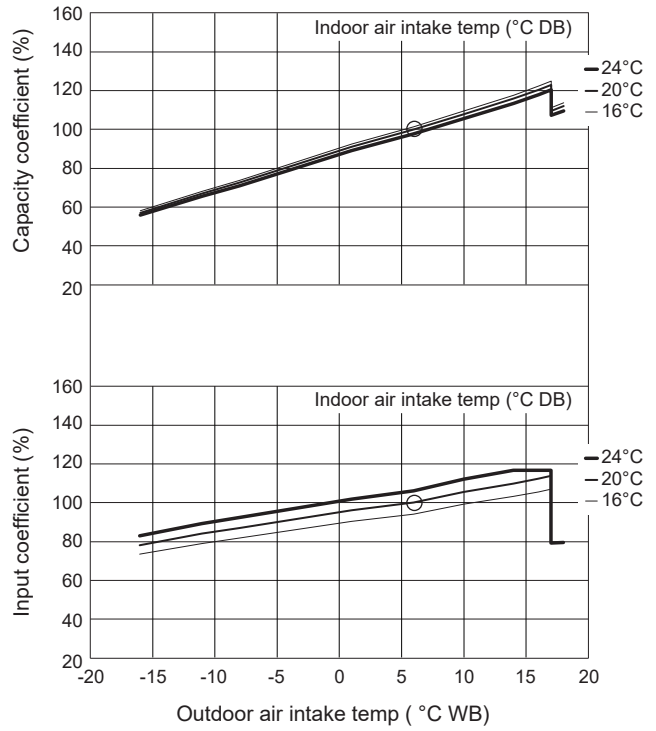
PZ3

U-50PZ3E5 (For 50 Hz)

Cooling capacity ratio (maximum capacity)



Heating capacity ratio (maximum capacity)



Outdoor unit heating capacity correction coefficient during of frosting/defrosting

Outdoor intake air temperature °C WB	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Correction coefficient	0.930	0.924	0.918	0.912	0.906	0.900	0.923	0.910	0.910	0.903	0.896	0.890	0.883	0.876	0.876	0.892	0.907	0.923	0.938	0.954	0.969	0.985	1.000

To calculate the heating capacity with consideration for frosting/defrosting operation, multiply the heating capacity found from the capacity graph by the correction coefficient from the table above.

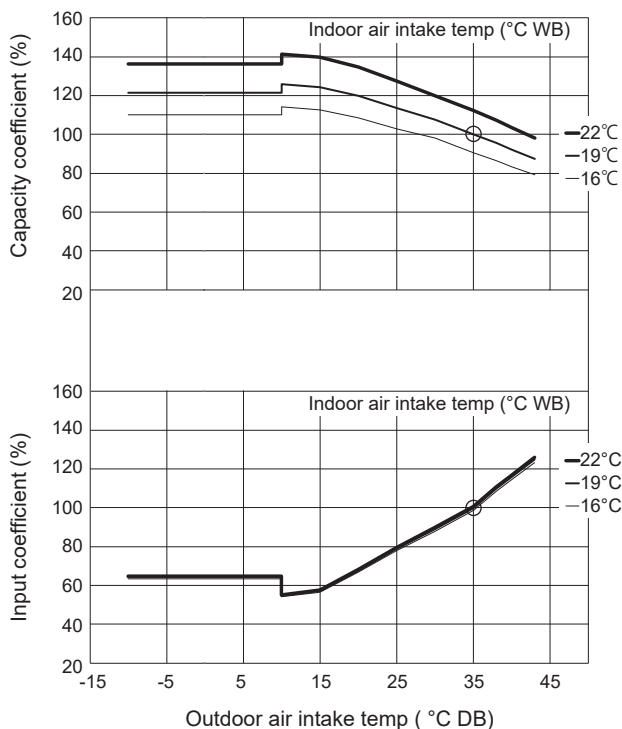


1-5. Capacity Correction Graph According to Temperature Condition

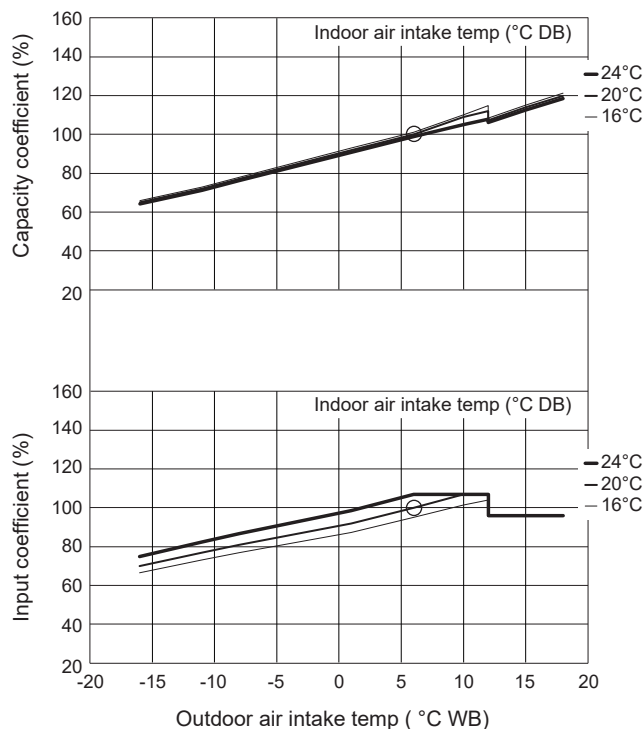
PZ3

U-60PZ3E5 (For 50 Hz)

Cooling capacity ratio (maximum capacity)



Heating capacity ratio (maximum capacity)



Outdoor unit heating capacity correction coefficient during of frosting/defrosting

Outdoor intake air temperature °C WB	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Correction coefficient	0.935	0.934	0.933	0.932	0.931	0.930	0.923	0.917	0.910	0.903	0.896	0.890	0.883	0.876	0.876	0.892	0.907	0.923	0.938	0.954	0.969	0.985	1.000

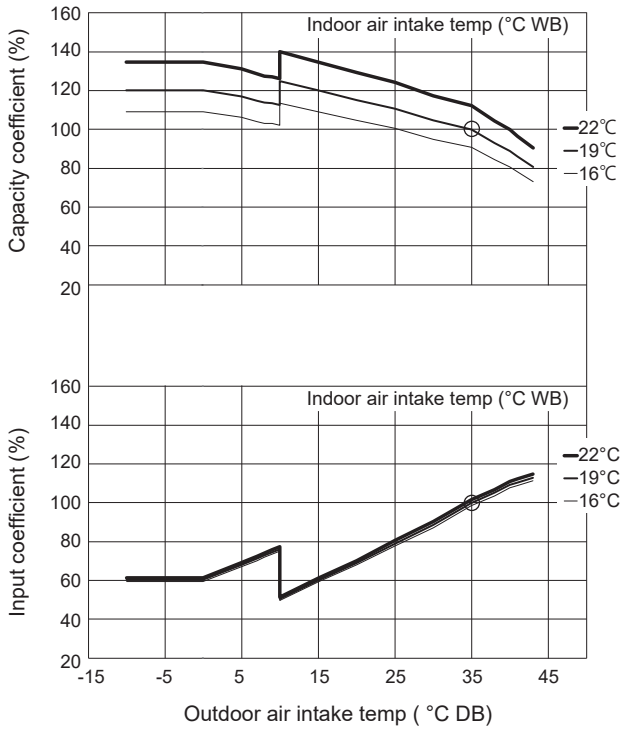
To calculate the heating capacity with consideration for frosting/defrosting operation, multiply the heating capacity found from the capacity graph by the correction coefficient from the table above.

1-5. Capacity Correction Graph According to Temperature Condition

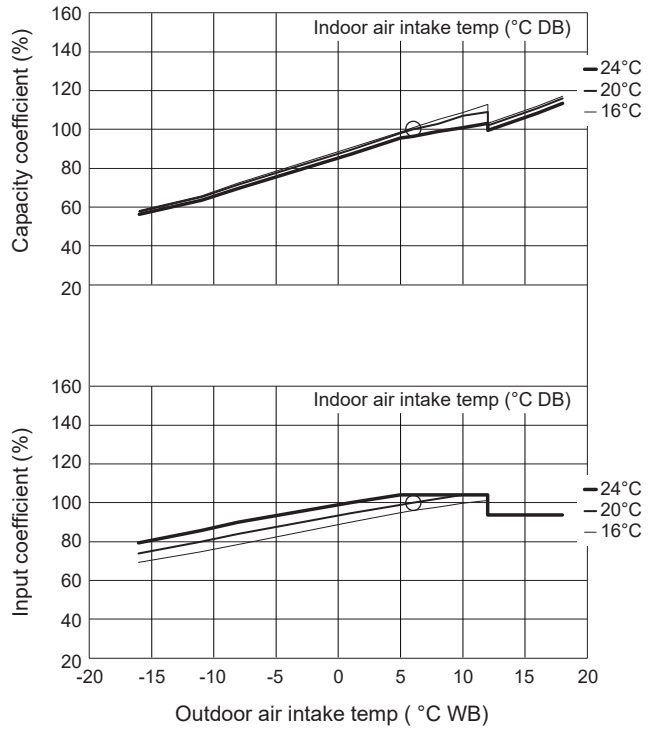
PZ3

U-71PZ3E5 (For 50 Hz)

Cooling capacity ratio (maximum capacity)



Heating capacity ratio (maximum capacity)



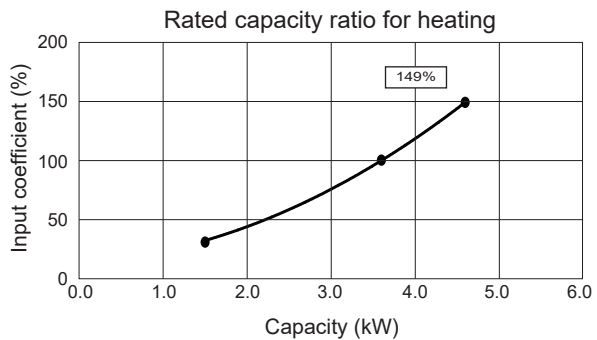
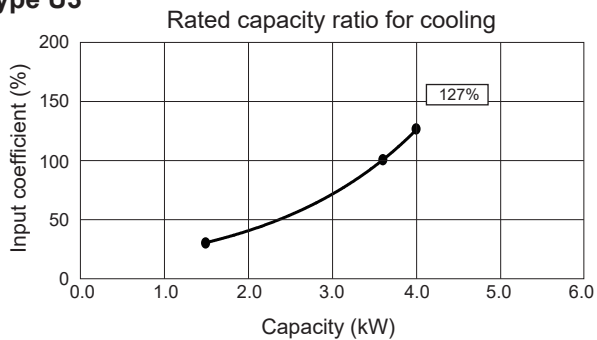
Outdoor unit heating capacity correction coefficient during of frosting/defrosting

Outdoor intake air temperature °C WB	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Correction coefficient	0.935	0.934	0.933	0.932	0.931	0.930	0.923	0.917	0.910	0.903	0.896	0.890	0.883	0.876	0.876	0.840	0.870	0.890	0.930	0.950	0.980	0.990	1.000

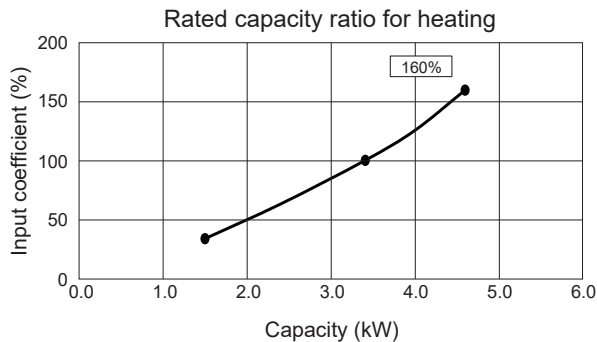
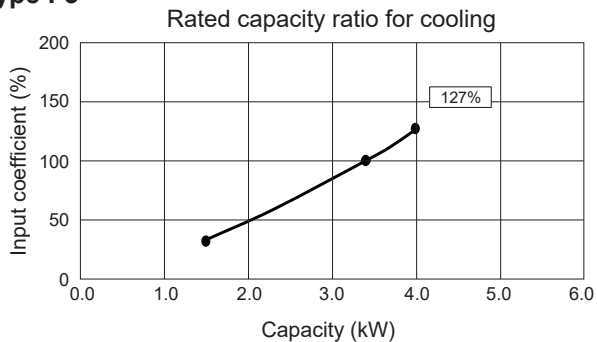
To calculate the heating capacity with consideration for frosting/defrosting operation, multiply the heating capacity found from the capacity graph by the correction coefficient from the table above.

U-36PZ3E5

Type U3



Type F3

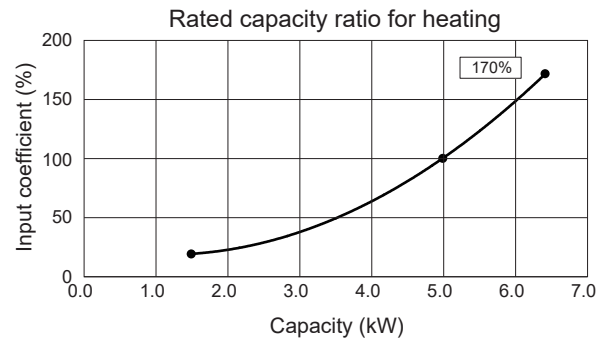
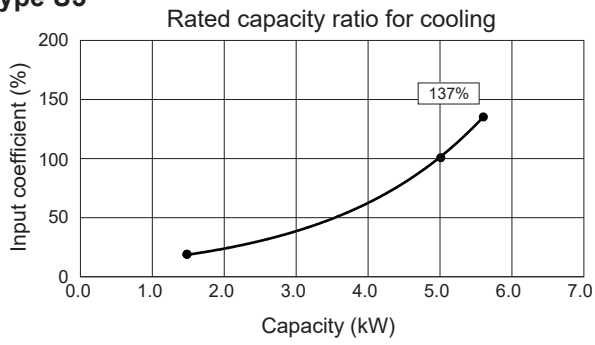


**NOTE**

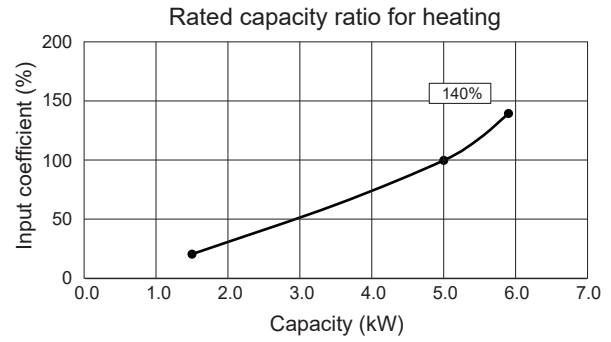
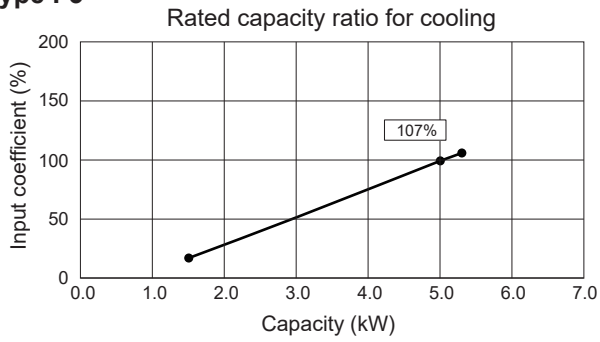
- Each type of the characteristics shows the value under the following conditions.  
 Equivalent tubing length : 5m  
 Difference of elevation : 0m  
 Wind speed : High

## U-50PZ3E5

## Type U3



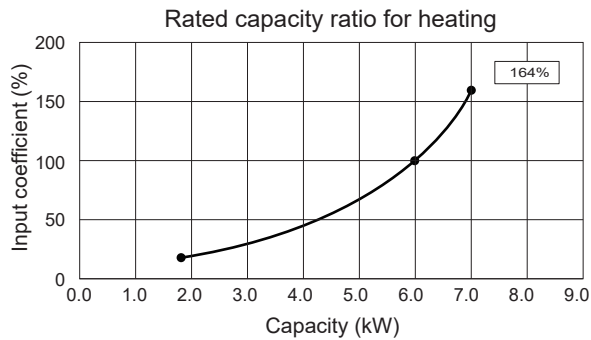
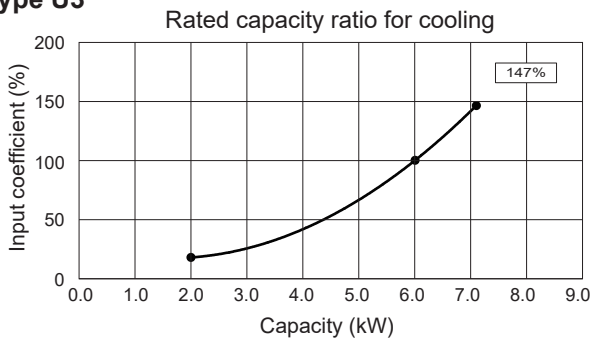
## Type F3

**NOTE**

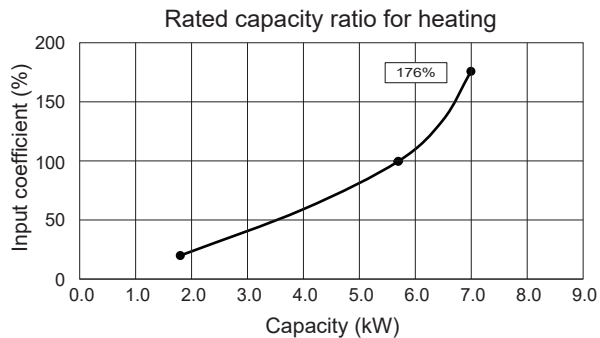
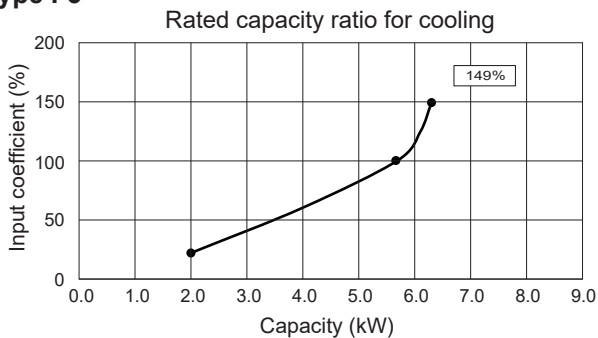
- Each type of the characteristics shows the value under the following conditions.
  - Equivalent tubing length : 5m
  - Difference of elevation : 0m
  - Wind speed : High

**U-60PZ3E5**

**Type U3**



**Type F3**

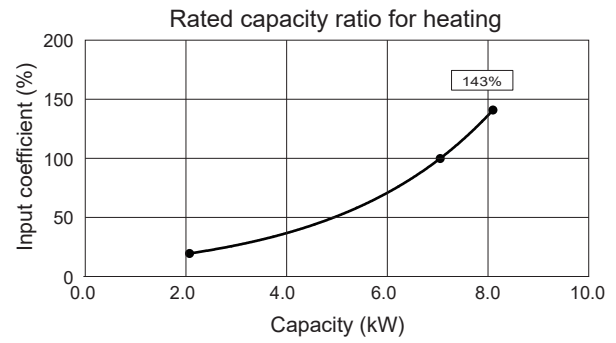
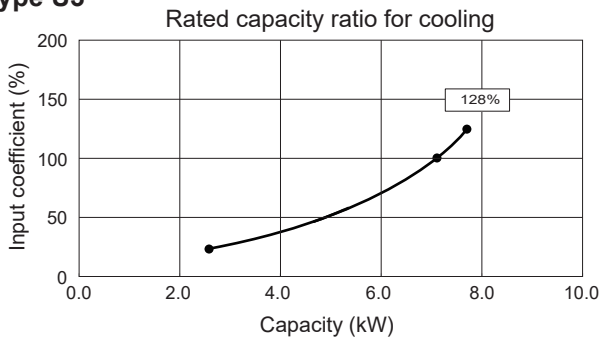


**NOTE**

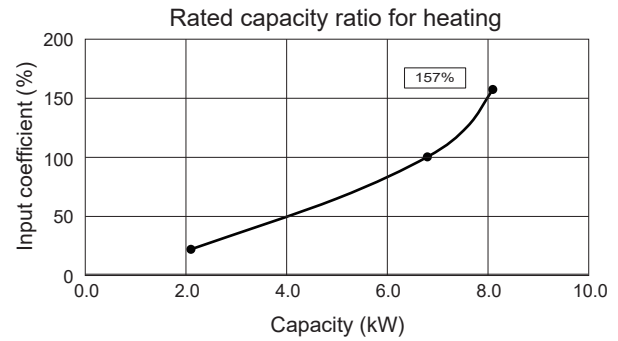
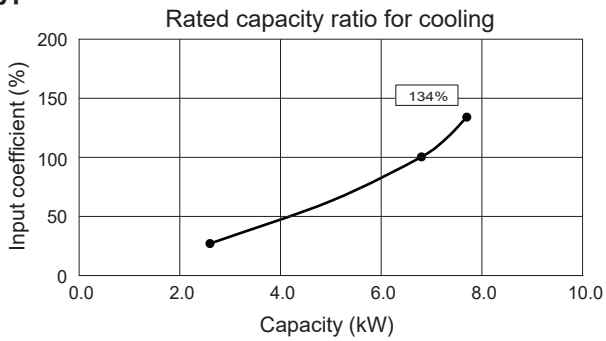
- Each type of the characteristics shows the value under the following conditions.  
 Equivalent tubing length : 5m  
 Difference of elevation : 0m  
 Wind speed : High

## U-71PZ3E5

## Type U3



## Type F3

**NOTE**

- Each type of the characteristics shows the value under the following conditions.
 

Equivalent tubing length	: 5m
Difference of elevation	: 0m
Wind speed	: High

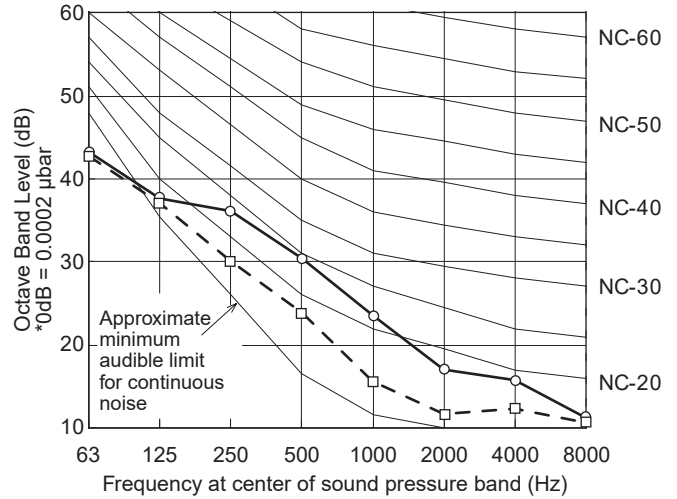
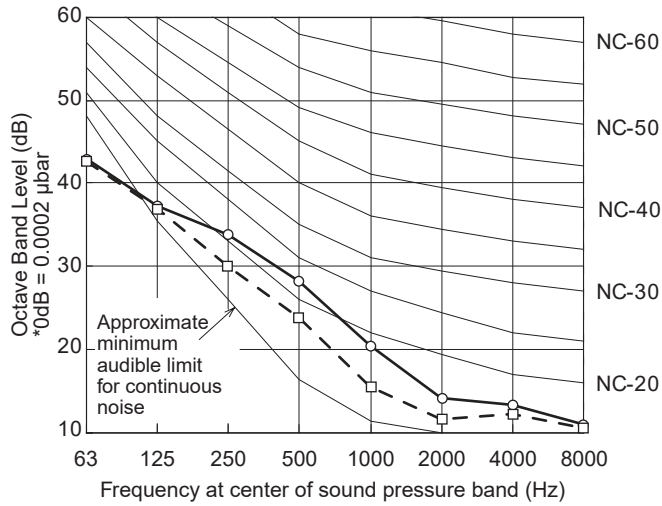
**1-6. Noise Criterion Curves**

**(A) Indoor Units:**

**1. 4-Way Cassette Type**

MODEL	: S-3650PU3E(36)
SOUND LEVEL	: High 30 dB(A) Low 27 dB(A)
CONDITION	: Under the unit 1.5m
SOURCE	: 220-230-240V, 1 phase, 50Hz

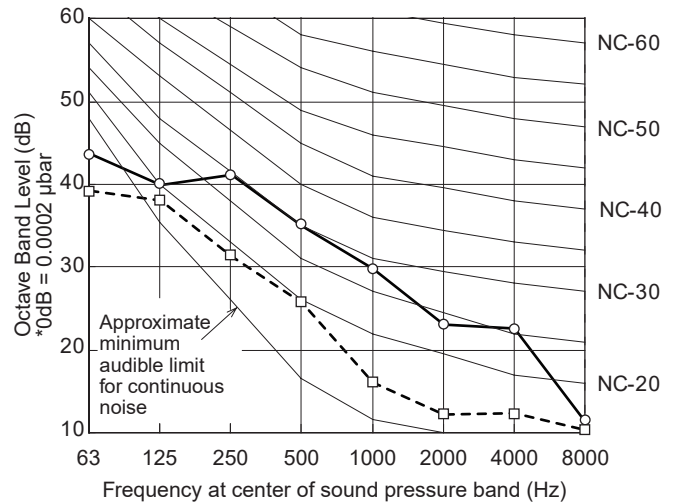
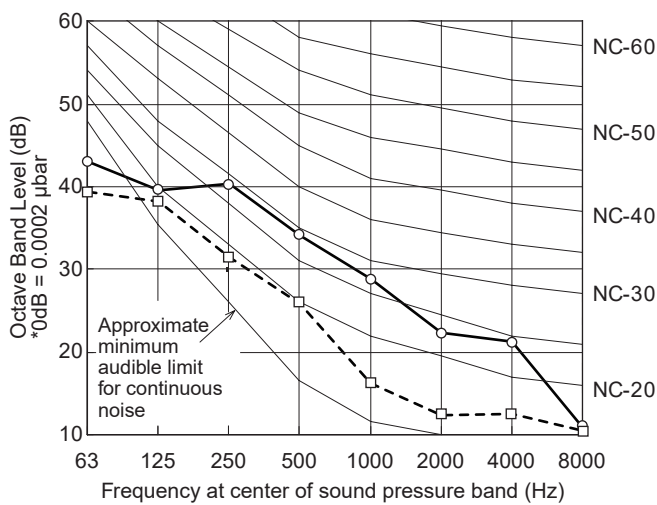
MODEL	: S-3650PU3E(50)
SOUND LEVEL	: High 32 dB(A) Low 27 dB(A)
CONDITION	: Under the unit 1.5m
SOURCE	: 220-230-240V, 1 phase, 50Hz



\* For S-3650PU3E (36) and S-3650PU3E (50), see the Combination Table items 36 and 50 on page 15.

MODEL	: S-6071PU3E(60)
SOUND LEVEL	: High 36 dB(A) Low 28 dB(A)
CONDITION	: Under the unit 1.5m
SOURCE	: 220-230-240V, 1 phase, 50Hz

MODEL	: S-6071PU3E(71)
SOUND LEVEL	: High 37 dB(A) Low 28 dB(A)
CONDITION	: Under the unit 1.5m
SOURCE	: 220-230-240V, 1 phase, 50Hz



\* For S-6071PU3E (60) and S-6071PU3E (71), see the Combination Table items 60 and 71 on page 15.

1-6. Noise Criterion Curves

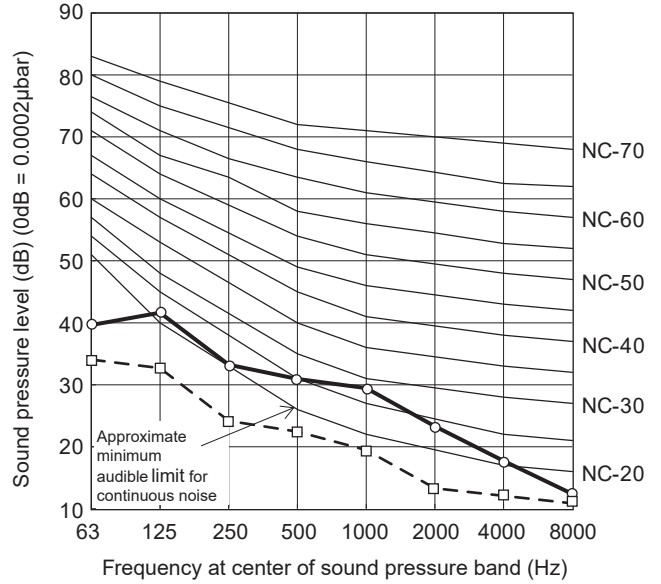
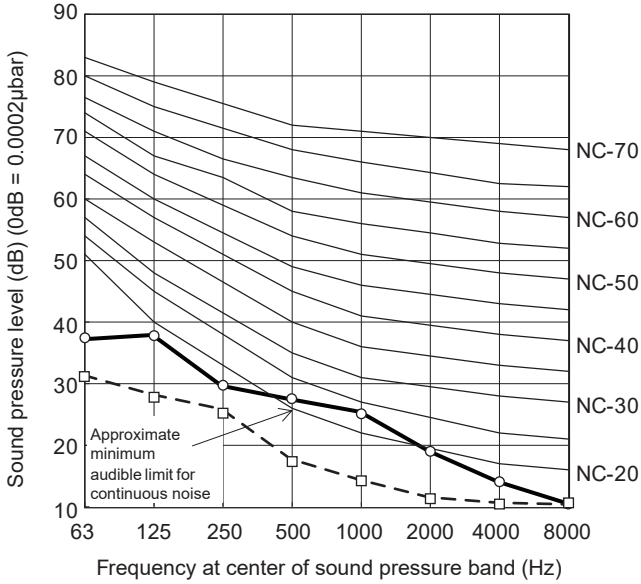
(A) Indoor Units

2. Middle Static Pressure Duct Type

—○— High  
 - -□- -

MODEL	: S-3650PF3E(36)
SOUND LEVEL	: High 30 dB(A) Low 22 dB(A)
CONDITION	: Under the unit 1.5m
SOURCE	: 220-230-240V, 1 phase, 50Hz

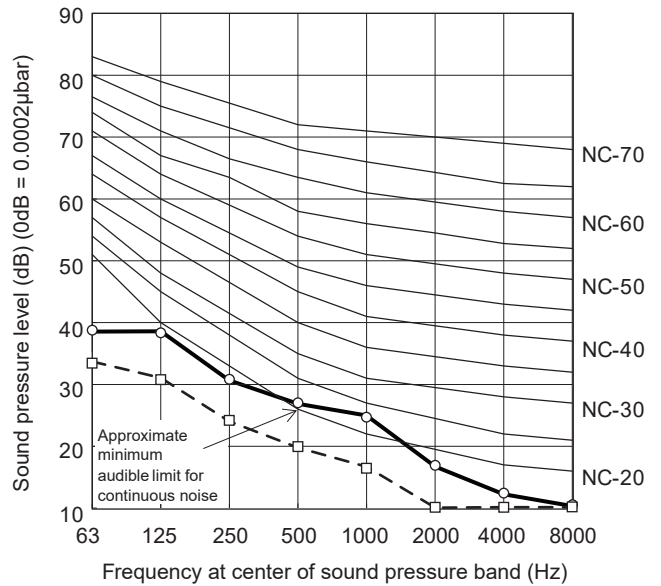
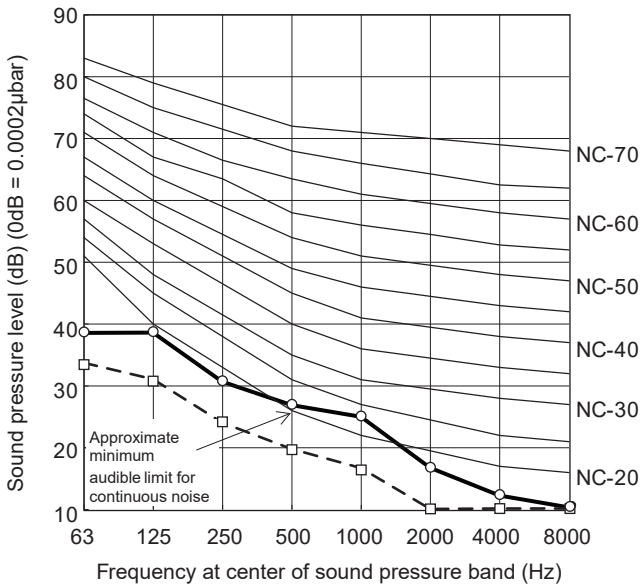
MODEL	: S-3650PF3E(50)
SOUND LEVEL	: High 34 dB(A) Low 25 dB(A)
CONDITION	: Under the unit 1.5m
SOURCE	: 220-230-240V, 1 phase, 50Hz



\* For S-3650PF3E (36) and S-3650PF3E (50), see the Combination Table items 36 and 50 on page 15.

MODEL	: S-6071PF3E(60)
SOUND LEVEL	: High 30 dB(A) Low 23 dB(A)
CONDITION	: Under the unit 1.5m
SOURCE	: 220-230-240V, 1 phase, 50Hz

MODEL	: S-6071PF3E(71)
SOUND LEVEL	: High 30 dB(A) Low 23 dB(A)
CONDITION	: Under the unit 1.5m
SOURCE	: 220-230-240V, 1 phase, 50Hz



\* For S-6071PF3E (60) and S-6071PF3E (71), see the Combination Table items 60 and 71 on page 15.

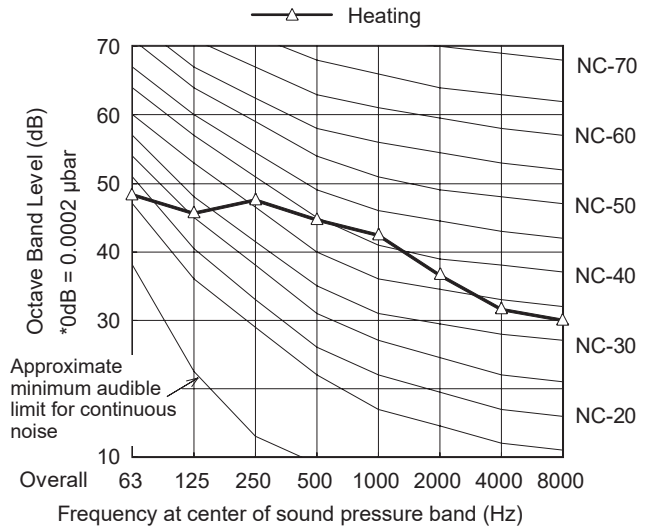
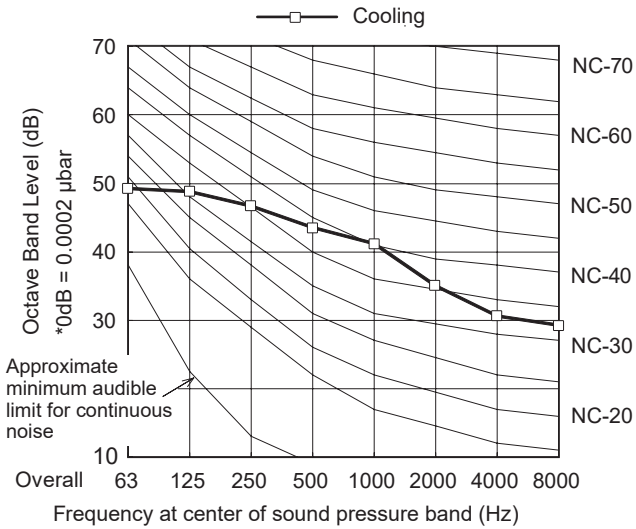


1-6. Noise Criterion Curves

(B) Outdoor Units

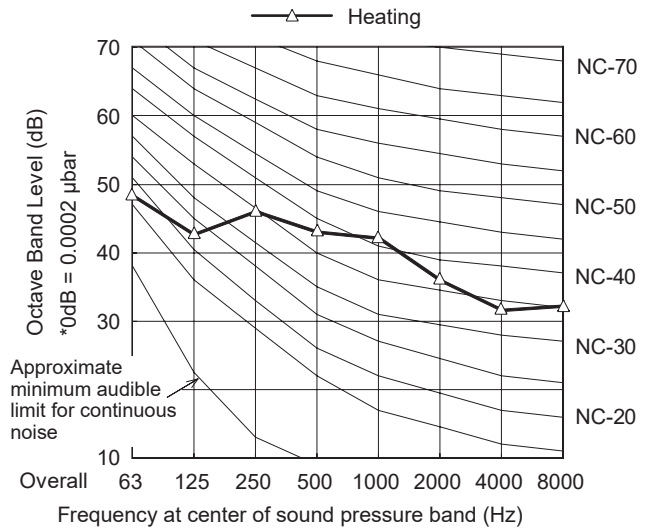
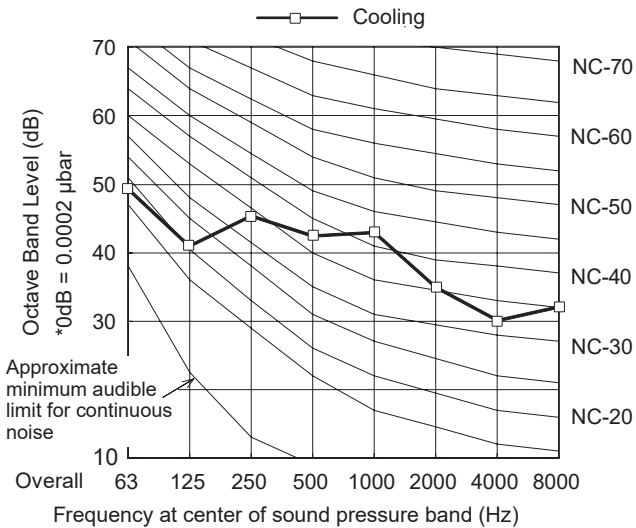
MODEL	: U-36PZ3E5
SOUND LEVEL	: Cooling 46 dB(A)
CONDITION	: 1 m in front at height of 1.5 m
SOURCE	: 220-230-240V, 1 phase, 50Hz

MODEL	: U-36PZ3E5
SOUND LEVEL	: Heating 47 dB(A)
CONDITION	: 1 m in front at height of 1.5 m
SOURCE	: 220-230-240V, 1 phase, 50Hz



MODEL	: U-50PZ3E5
SOUND LEVEL	: Cooling 46 dB(A)
CONDITION	: 1 m in front at height of 1.5 m
SOURCE	: 220-230-240V, 1 phase, 50Hz

MODEL	: U-50PZ3E5
SOUND LEVEL	: Heating 46 dB(A)
CONDITION	: 1 m in front at height of 1.5 m
SOURCE	: 220-230-240V, 1 phase, 50Hz

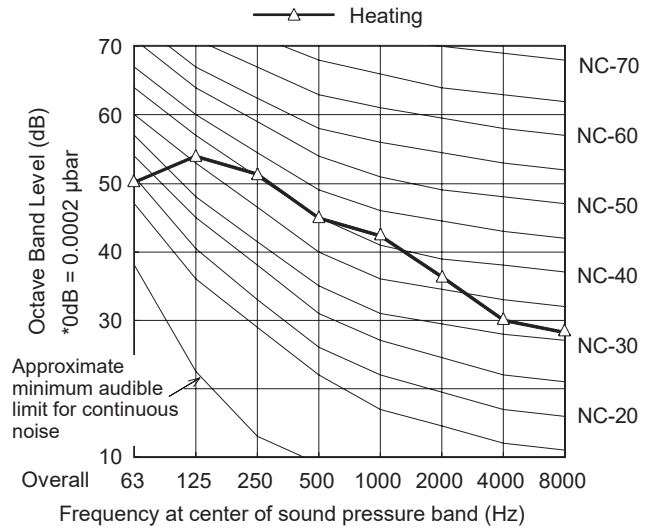
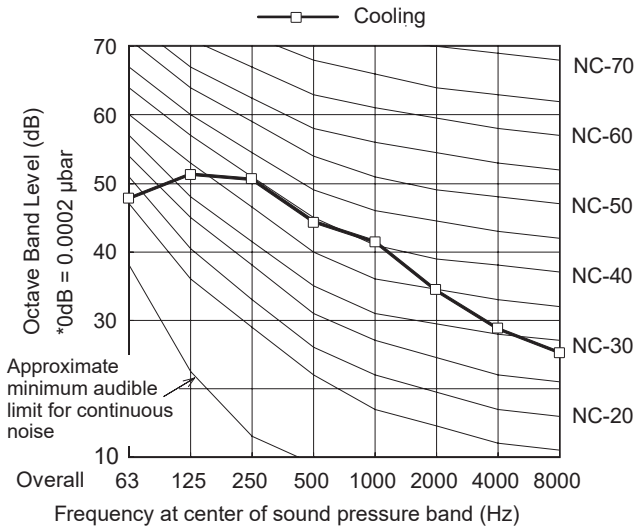


1-6. Noise Criterion Curves

(B) Outdoor Unit

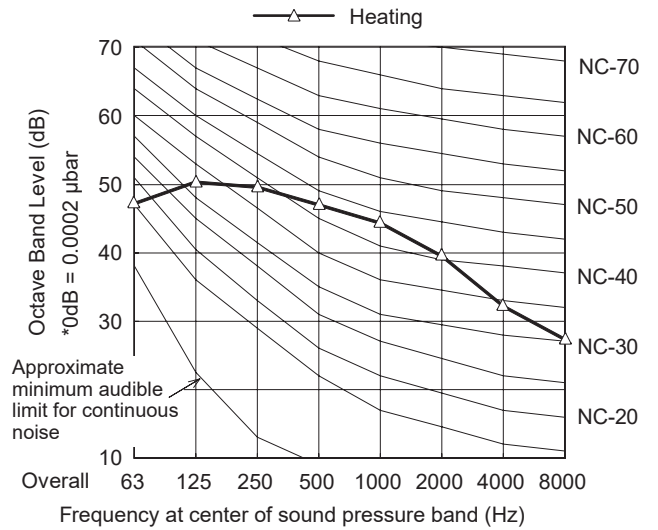
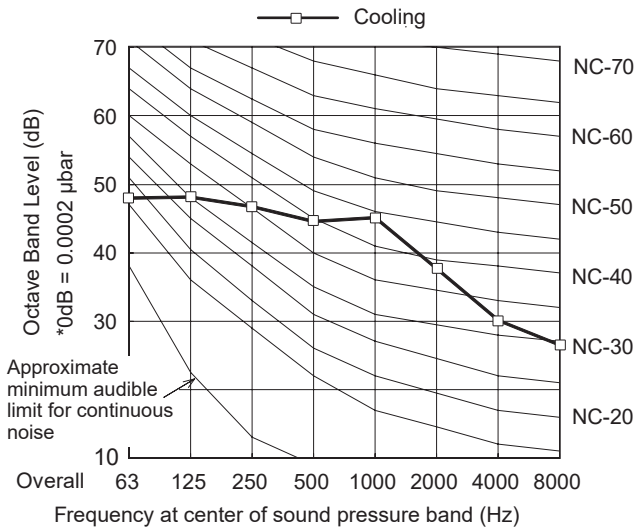
MODEL	: U-60PZ3E5
SOUND LEVEL	: Cooling 47 dB(A)
CONDITION	: 1 m in front at height of 1.5 m
SOURCE	: 220-230-240V, 1 phase, 50Hz

MODEL	: U-60PZ3E5
SOUND LEVEL	: Heating 48 dB(A)
CONDITION	: 1 m in front at height of 1.5 m
SOURCE	: 220-230-240V, 1 phase, 50Hz



MODEL	: U-71PZ3E5
SOUND LEVEL	: Cooling 48 dB(A)
CONDITION	: 1 m in front at height of 1.5 m
SOURCE	: 220-230-240V, 1 phase, 50Hz

MODEL	: U-71PZ3E5
SOUND LEVEL	: Heating 49 dB(A)
CONDITION	: 1 m in front at height of 1.5 m
SOURCE	: 220-230-240V, 1 phase, 50Hz



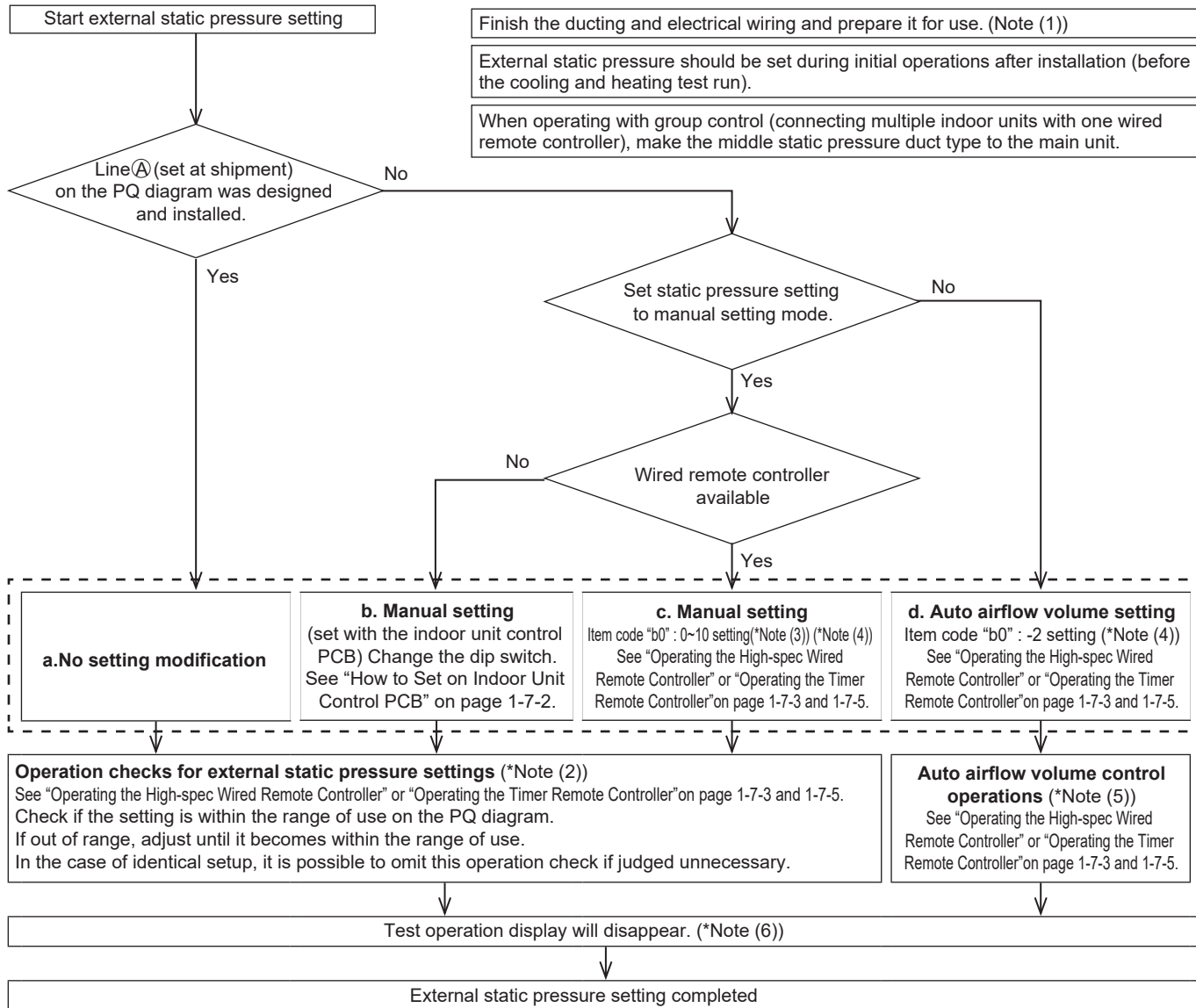
### 1-7. Indoor Fan Performance (Type F3)

#### EXTERNAL STATIC PRESSURE SETTING

For middle static pressure duct type indoor units, the ventilating resistance so-called “external static pressure” becomes greatly different depending on the connected duct length, shape, number of air outlet ports and types of filters. When installing this unit, be sure to carry out the external static pressure setting in order to operate in the rated airflow volume. Choose one of the following methods from “a”, “b”, “c” or “d” as shown in the flow chart (within the dotted lines) and then make the setting accordingly.

- a. No setting modification..... : Use-as-is at shipment (there are cases in which the setting may differ from the shipment setting when reset after once setting the external static pressure.)
- b. Manual setting (set with the indoor unit control PCB)..... : For high static pressure. Switching method with the short-circuit connector.
- c. Manual setting (set with the wired remote controller) ..... : Low static pressure ~ high static pressure
- d. Auto airflow volume setting (set on the wired remote controller) .... : Air outlet volume is automatically adjusted to the rated airflow volume with the auto airflow control drive.

#### Flow of External Static Pressure



**NOTE**

- (1) Check the following items before performing the setting-check operations or auto airflow volume operations.
  - 1) Check to make sure that the electrical wiring and ducting have been completed. Activate the stand-by mode. In particular, make sure that the closed damper located in the middle of the duct is open, if installed. Also, make sure that air filters have been installed inside the air inlet duct.  
Check to make sure air is not leaking from the joints.
  - 2) If multiple air outlets and air inlets are included, adjust the airflow volume ratio of all of them until they meet the design airflow ratio.
  - 3) Make sure the address setting has been completed.
- (2) The operation check will be completed in approximately three minutes if the settings have been made correctly. The settings will be modified if they are out of the range of use (maximum 30 minutes.). If this is not completed within 31 minutes, check whether the air speed is set to “H” or not.

- (3) See Table 1-7-2, 1-7-3 and Fig. 1-7-2 for details on the relationship between the value of item code “b0” and the external static pressure.
- (4) When set in group control (connecting multiple indoor units with one wired remote controller), set each indoor unit to item code “b0”. When amending the setting after selecting [b. Manual setting] (due to airflow path changes, etc.), it is necessary to cancel [b. Manual setting] (change the dip switch). When [b. Manual setting] has not been cancelled, [c. Manual setting] and [d. Auto airflow volume setting] will be activated if selected, but [b. Manual setting] takes precedence when the power is switched back on after power outages, etc.
- (5) If this is not completed within 8 minutes, check the operation mode, air speed and air inlet temperature.
- (6) When set in group control (connecting multiple indoor units with one wired remote controller), the test run operations display will disappear once the external static pressure setting check or auto airflow volume control operation check have been completed for the main unit. However, it is not possible to determine whether sub-units have completed. The test run operation display will disappear after one hour even if the external static pressure setting check or auto airflow volume control operation check have not been completed.



## CAUTION

- Be sure to check that the external static pressure is within the range for use and then make the setting. Failure to observe this may result in insufficient airflow or water leakages. See Fig. 1-7-2 for the external static pressure setting range.
- There are cases in which automatic variable dampers and other mounted items may trigger the P12 alarm on systems that modify the external static pressure when the auto airflow volume control operations or setting check operations are carried out if high external static pressure is lowered. In this event, lower the dampers, etc., so that the external static pressure reaches its lowest level, and then carry out the auto airflow volume control operations or setting check operations.
- Be sure to set the [External Static Pressure Setting] once again after amending the airflow path for the duct or air outlet after setting the external static pressure.
- Set the air inlet temperature within the range for use. The auto airflow volume control will not function if the air inlet temperature is over 45°C or if operation is other than fan mode.

## How to Set on Indoor Unit Control PCB

1. Turn off the power breaker to halt the supply of electricity to the indoor unit control PCB.
2. Open the electrical component box cover, then check the indoor unit control PCB. (Fig. 1-7-1)
3. Change the dip switch (SW001) of the indoor unit control PCB according to the setting selected in Table 1-7-1.

Table 1-7-1

External static pressure of the rated airflow volume	DIP switch
10 Pa	
50 Pa	
110 Pa	

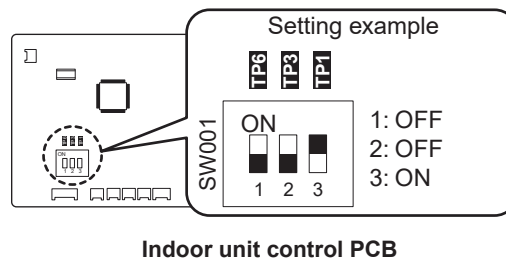
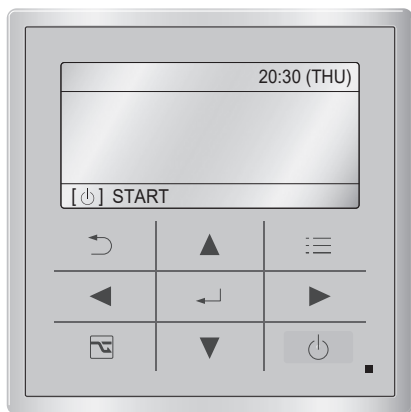


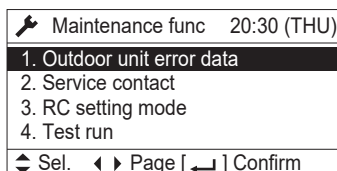
Fig. 1-7-1

## Operating the High-spec Wired Remote Controller (CZ-RTC5B)

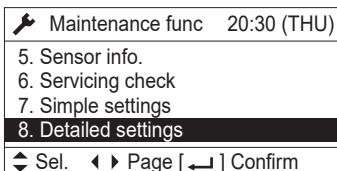


### How to set the external static pressure

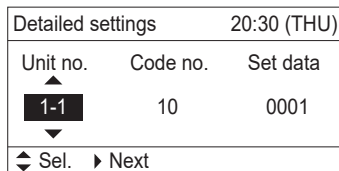
- Keep pressing the , and buttons simultaneously for 4 or more seconds. The "Maintenance func" screen appears on the LCD display.



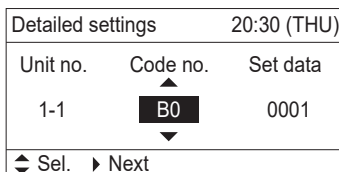
- Press the or button to see each menu. If you wish to see the next screen instantly, press the or button. Select "8. Detailed settings" on the LCD display and press the button.



The "Detailed settings" screen appears on the LCD display. Select the "Unit no." by pressing the or button for changes.



- Select the "Code no." by pressing the or button. Change the "Code no." to "B0" by pressing the or button (or keeping it pressed).



- Select the "Set data" by pressing the or button. Select one of the "Set data" among "0001" – "0010" according to the desired external static pressure setting by pressing the or button. Then press the button. (See the table below.)

#### When setting to auto airflow volume control:

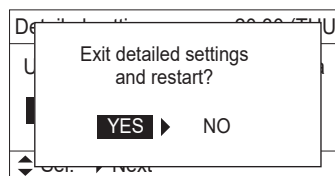
Select the setting data to "-002". Then press the button.

Table 1-7-2 Setting the external static pressure




Indoor unit type		Item code
3650	6071	
Outdoor unit type		
-		
External static pressure of the rated airflow volume (Pa)		
150		0010
140		0009
130		0008
120		0007
110		0006
90		0005
70		0004
50		0003
30 *		0002
10		0001
No auto airflow volume setting		-001
Auto airflow volume setting		-002

#### \* Setting at shipment

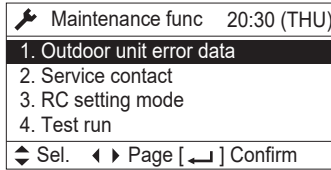
- Select the "Unit no." by pressing the or button and press the button. The "Exit detailed settings and restart?" (Detailed setting-end) screen appears on the LCD display. Select "YES" and press the button. When the setting is completed, perform the test run for the external static pressure setting described in "Auto External Static Pressure Setting Operation".








## Auto External Static Pressure Setting Operation

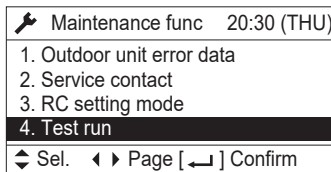
6. Keep pressing the ,  and  buttons simultaneously for 4 or more seconds.

The "Maintenance func" screen appears on the LCD display.

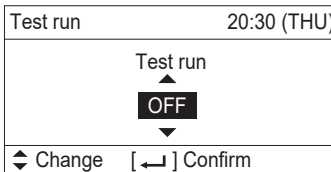





7. Press the  or  button to see each menu. If you wish to see the next screen instantly, press the  or  button.

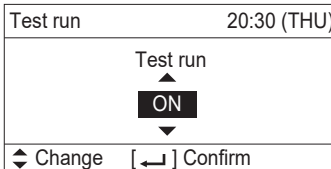
Select "4. Test run" on the LCD display and press the  button.



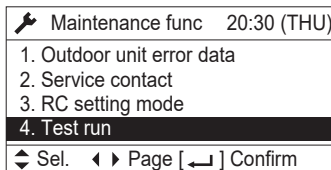
The "Test run" screen appears on the LCD display.




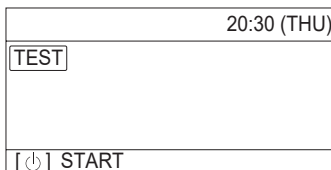
Change the display from OFF to ON by pressing the  or  button. Then press the  button.




The "Maintenance func" screen appears on the LCD display.








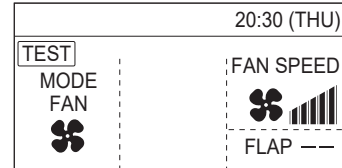
8. Press the  button. "TEST" will be displayed on the LCD display.



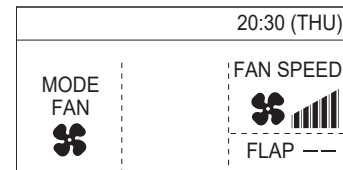
9. Press the  button. Test run will be started. Test run setting mode screen appears on the LCD display.



10. Set the operation mode to "MODE FAN" and fan speed mode to "FAN SPEED" by pressing the  or  button or  or  button. Then press the  button.




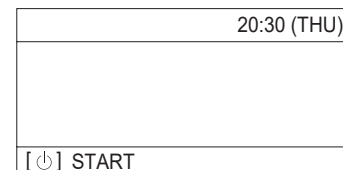
The fan motor will be activated, the auto external static pressure setting operation and setting-check operation will be performed for about 3 to 30 minutes. The fan speed will change automatically while these operations are in progress. When these operations completed, "TEST" will be disappeared from the LCD display.



### NOTE:

The auto external static pressure setting operation and setting-check operation will not be performed unless "MODE FAN" and "FAN SPEED" have been selected.

11. Press the  button. The LCD display will be returned to the initial screen.



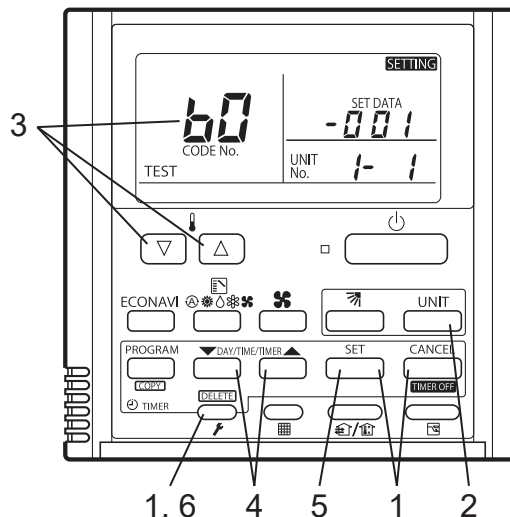
### NOTE:

Failure to set this parameter may result in decreased airflow and condensation.

### Operating the Timer Remote Controller (CZ-RTC4)

#### Setting Item Code "b0"

- Press and hold down the , and buttons simultaneously for 4 or more seconds.  
(**SETTING**, the unit no., item code and detailed data will blink on the LCD display.)
- The indoor unit numbers in the group control will be sequentially displayed whenever the Unit Select button is pressed .  
Only the fan motor for the selected indoor unit will operate during this time.
- Specify the "b0" item code by pressing the / buttons for the temperature setting buttons and confirm the values. (" - 001 " set at shipment)
- Press the / buttons for the time to amend the values for the set data.  
See Table 1-7-3 and Fig. 1-7-2 and select a value between " 0001 " and " 0010 ".  
Select " - 002 " if the auto airflow volume setting is activated.
- Press the button.  
The display will stop blinking and remain illuminated.
- Press the button. The fan motor will stop operating and the LCD display will return to the normal stop mode.



\*Failure to set this parameter may result in decreased airflow and condensation.

#### Auto Airflow Volume Control Operations and External Static Pressure Setting-Check Operation

- Press and hold down the button for 4 or more seconds. "TEST" will be displayed on the LCD display.
- Press the button to start the test run.
- Select the operation mode (Fan) by pressing the (Mode select) button.  
Then select the fan speed by pressing the (Fan speed) button.

**NOTE**

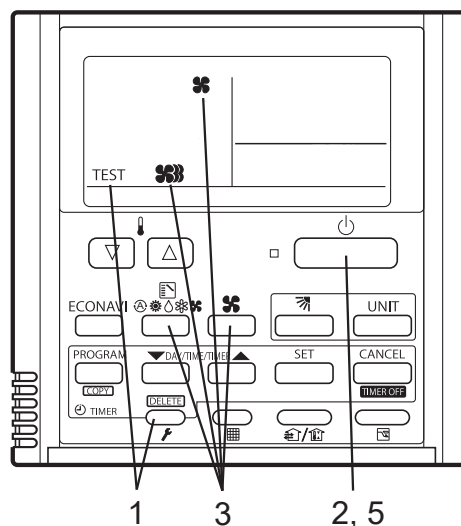
Auto airflow volume control operations and external static pressure setting-check operations will not be performed unless the above settings are made.

- The fan motor will be activated and auto airflow volume control operations or external static pressure setting-check operations will be started.  
The power of the airflow will change while these operations are in progress.  
The external static pressure setting-check operations and auto airflow volume control operations will be completed in about 3 to 30 minutes.  
"TEST" display will be disappeared from the LCD display.
- Press the button to halt the test run.

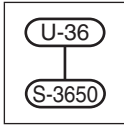
Table 1-7-3 Setting the external static pressure

Indoor unit type		Item code
3650	6071	
Outdoor unit type		
-		
External static pressure of the rated airflow volume (Pa)		
150		<b>0010</b>
140		<b>0009</b>
130		<b>0008</b>
120		<b>0007</b>
110		<b>0006</b>
90		<b>0005</b>
70		<b>0004</b>
50		<b>0003</b>
30 *		<b>0002</b>
10		<b>0001</b>
No auto airflow volume setting		<b>-001</b>
Auto airflow volume setting		<b>-002</b>

\* Setting at shipment



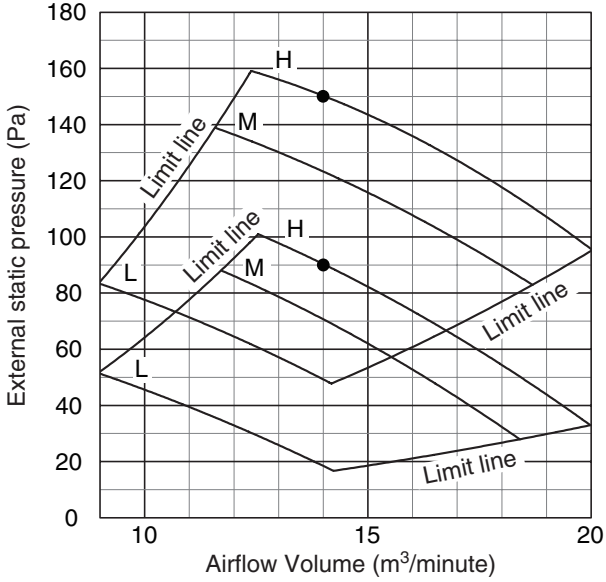
Indoor Units Type 3650 (36)



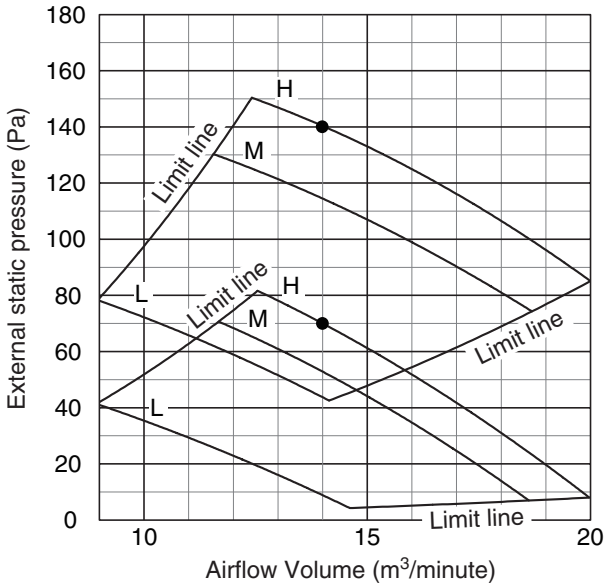
Indoor Fan Performance

PQ diagram (Fig. 1-7-2)

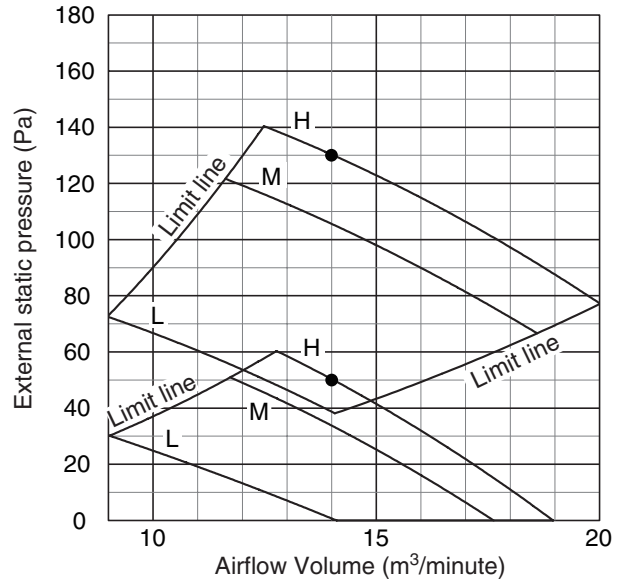
External static pressure 150Pa, 90Pa



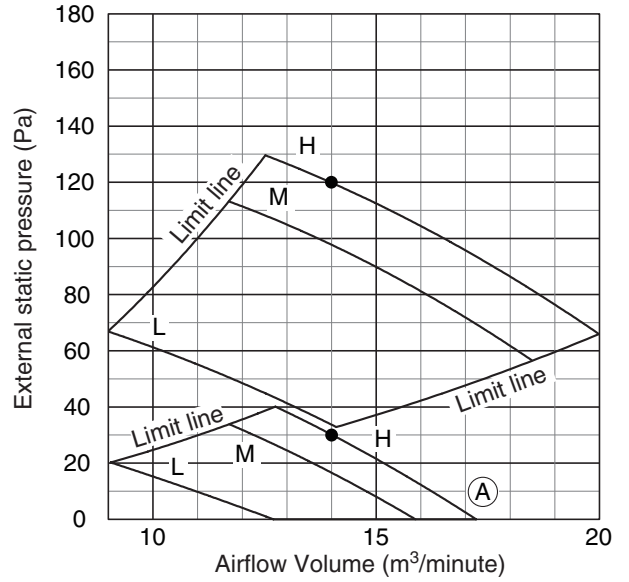
External static pressure 140Pa, 70Pa



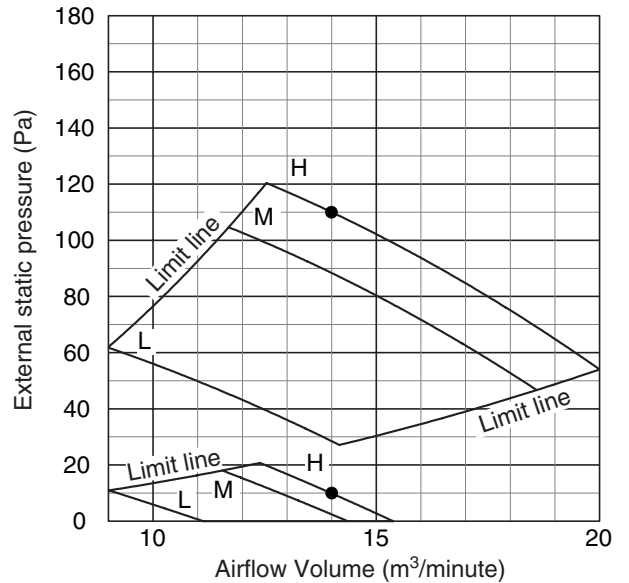
External static pressure 130Pa, 50Pa



External static pressure 120Pa, 30Pa

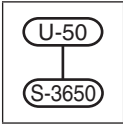


External static pressure 110Pa, 10Pa





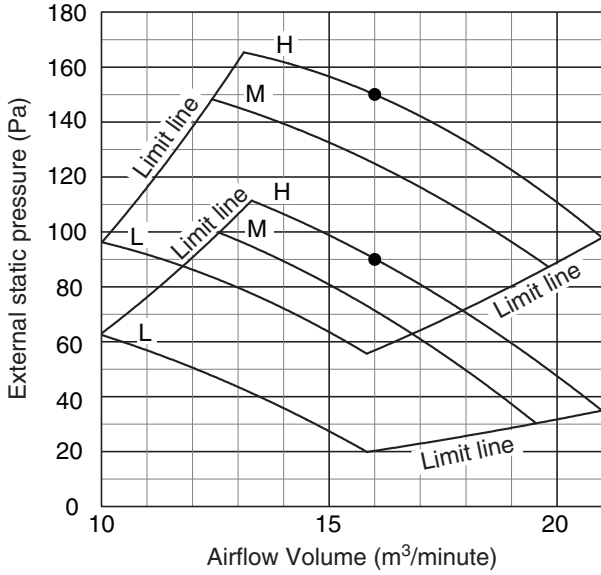
Indoor Units Type 3650 (50)



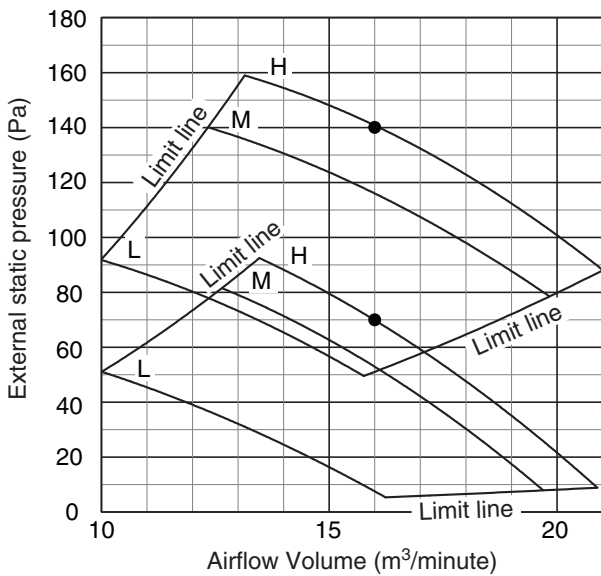
Indoor Fan Performance

PQ diagram (Fig. 1-7-2)

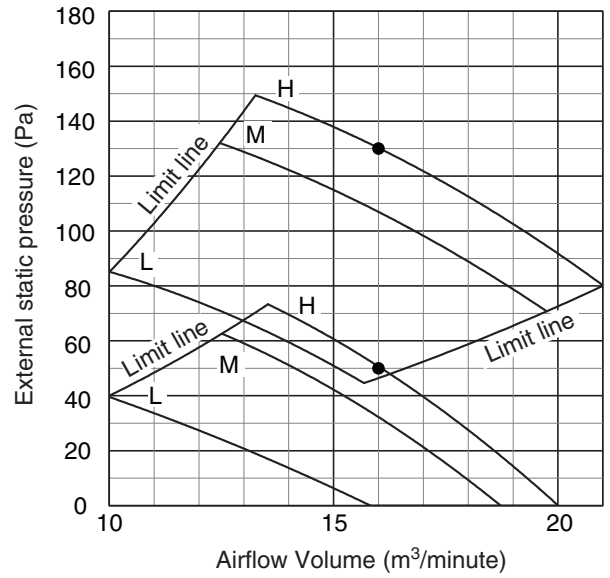
External static pressure 150Pa, 90Pa



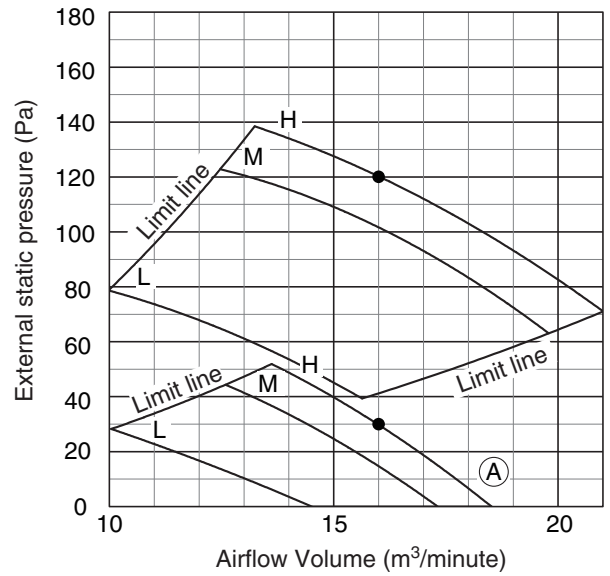
External static pressure 140Pa, 70Pa



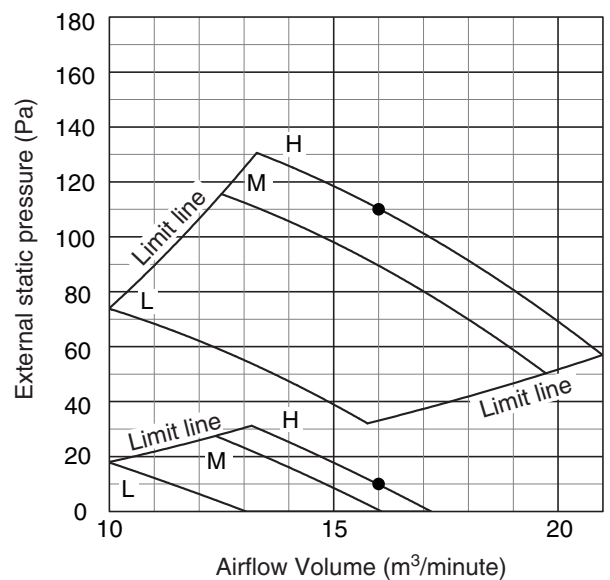
External static pressure 130Pa, 50Pa



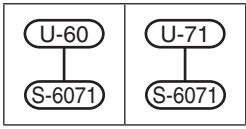
External static pressure 120Pa, 30Pa



External static pressure 110Pa, 10Pa



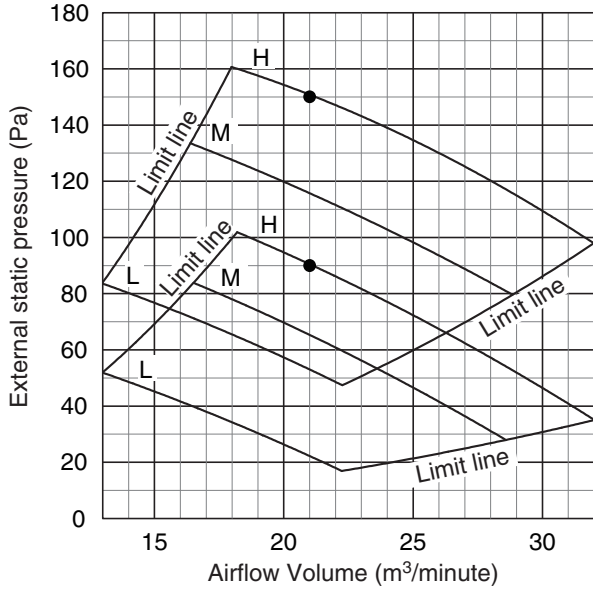
Indoor Units Type 6071 (60, 71)



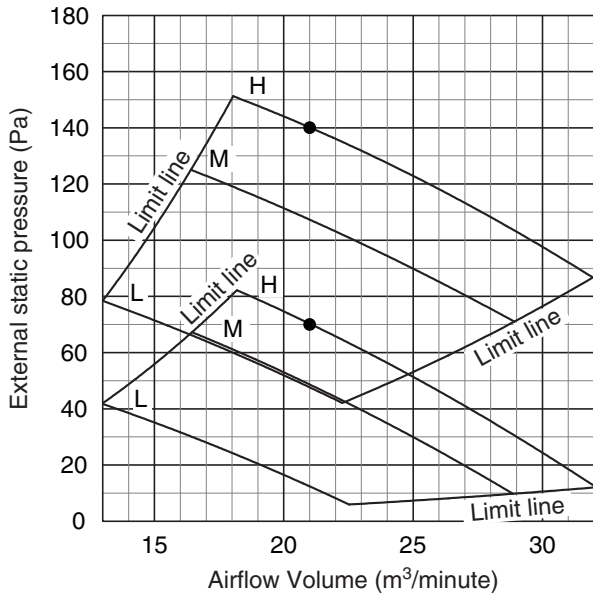
Indoor Fan Performance

PQ diagram (Fig. 1-7-2)

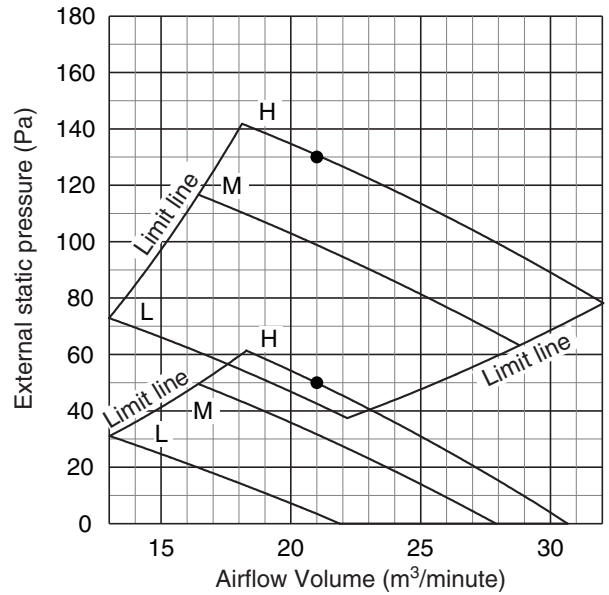
External static pressure 150Pa, 90Pa



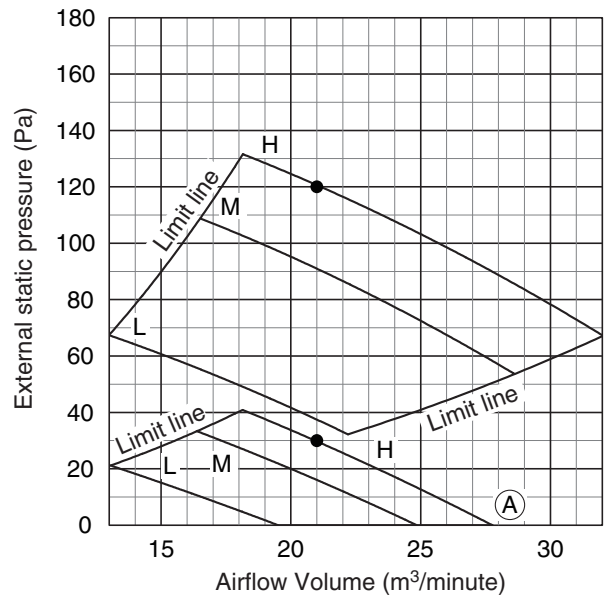
External static pressure 140Pa, 70Pa



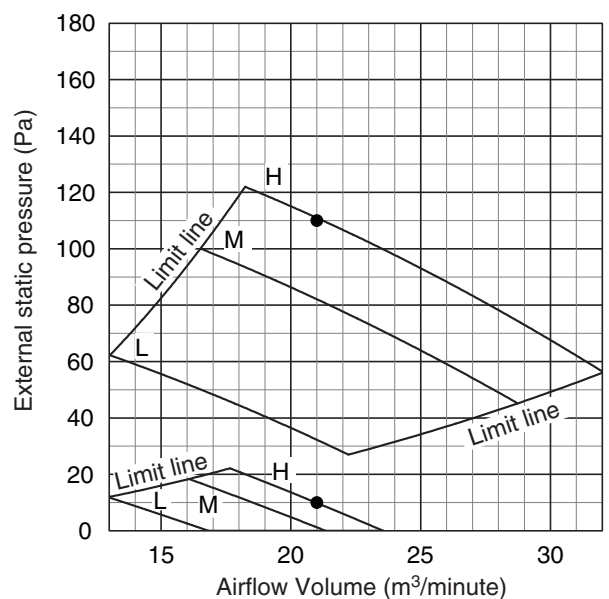
External static pressure 130Pa, 50Pa



External static pressure 120Pa, 30Pa



External static pressure 110Pa, 10Pa

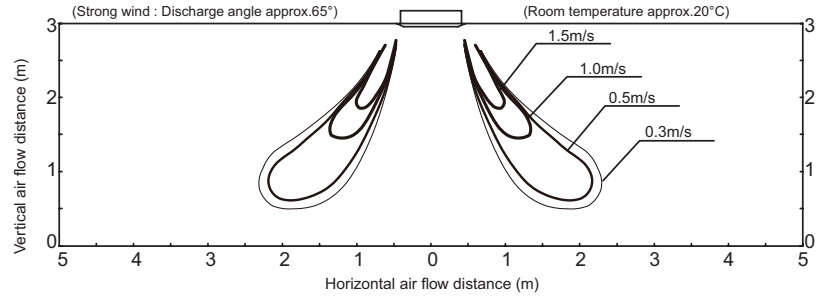


1-8. Airflow Distance Chart

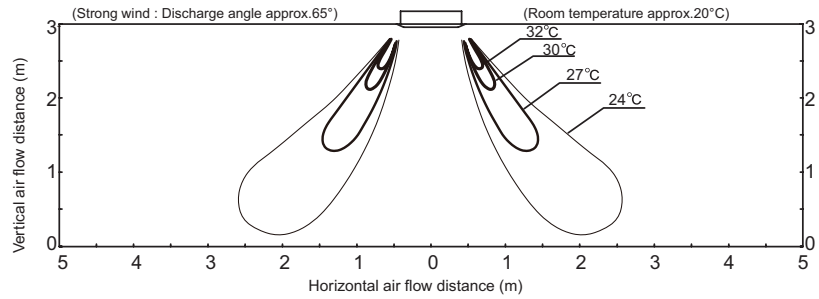
4-Way Cassette (Type U3)

S-3650PU3E

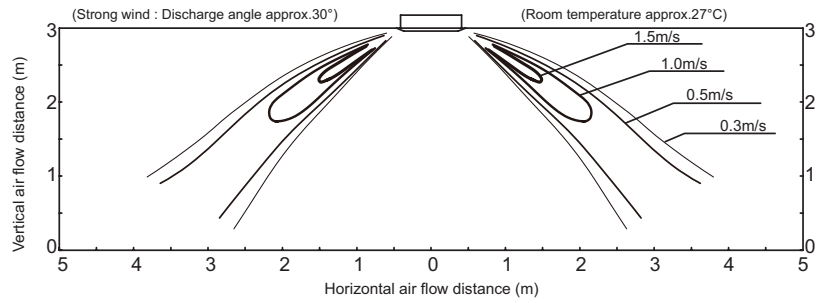
Heating : Distribution of wind velocity



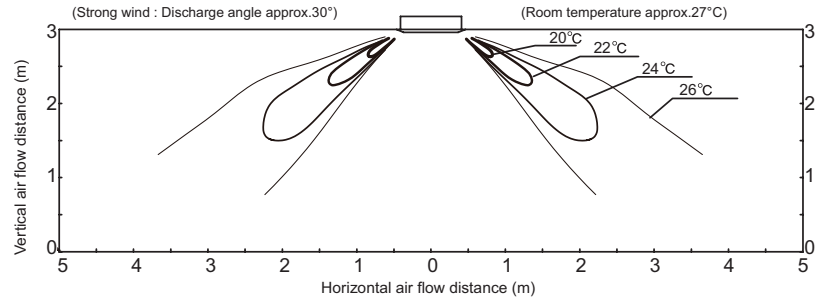
Heating : Distribution of temperature



Cooling : Distribution of wind velocity



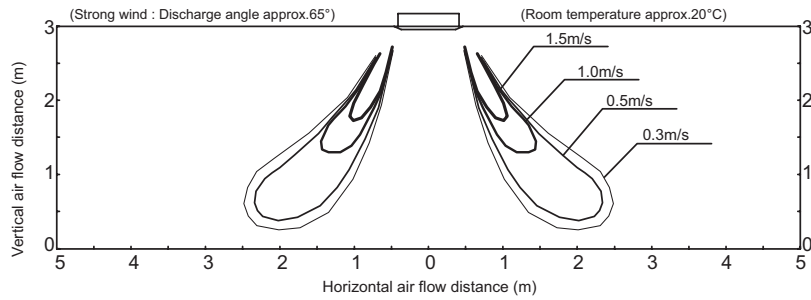
Cooling : Distribution of temperature



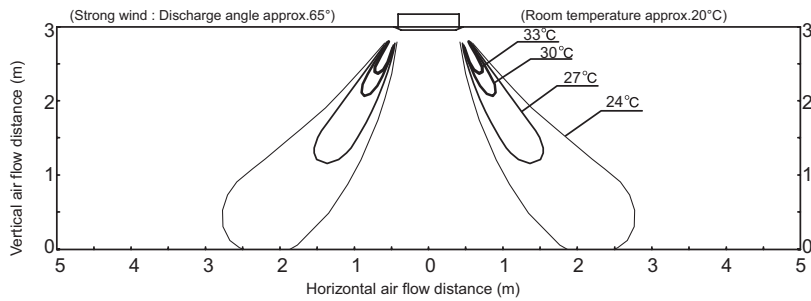
4-Way Cassette (Type U3)

S-6071PU3E

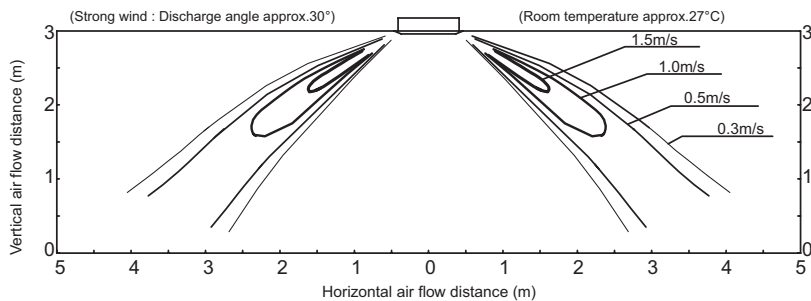
Heating : Distribution of wind velocity



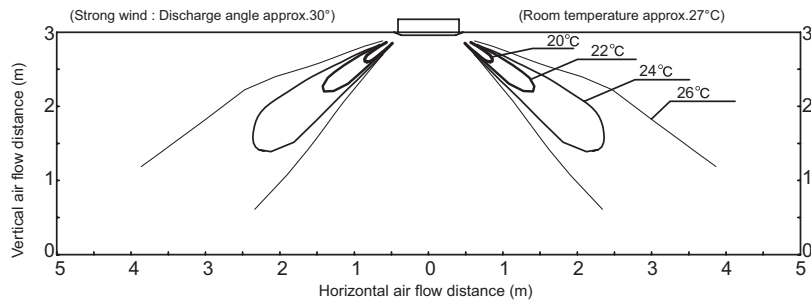
Heating : Distribution of temperature



Cooling : Distribution of wind velocity



Cooling : Distribution of temperature



## 1-9. Fresh Air Intake

### 1-9-1. Precautions Regarding External Air Intake

#### (1) Ventilation Load

Ensure that the design of the air-conditioner takes air-conditioning loads into consideration when external air intake is involved.

#### (2) Restrictions on External Air Intake

Ensure that the design conforms to the restrictions on air intake volume stipulated in accordance with the model of the indoor unit and the intake method. Consideration must also be taken to mixed air content listed in (3) below without fail.

\* If the air intake volume does not satisfy the required ventilation volume, air must be fed into the room separately with the use of a total heat exchanger or a fresh air processing air-conditioner, etc.

#### (3) Mixed Air

The amount of external air intake must be set within the scope of the unit's usage conditions when external air and internal air is mixed together. This is especially important in the following cases, in which it is necessary to either feed external air into the room after it has been processed or reduce the amount of external air that is fed in.

① When the external dew-point temperature is greater than the dry-bulb temperature of the air sucked into the unit  
Ensure that processing is performed so that the external dew-point temperature is lower than the temperature of the air sucked into the unit to prevent the risk of condensation building up.

② In the case of low external temperatures

There are cases in which the temperature of mixed air is lower than the operating range of the unit if excessive amounts of external air intake are used when the external temperature is low.

This problem is to be solved by either feeding external air into the room after it has been processed or reducing the amount of external air that is fed in.

③ When used in combination with humidifiers

External air must always be processed when the external air temperature reaches freezing point to prevent the risk of the humidifier freezing.

#### (4) Arranging Ducts and Filters in the Field

External air intake ducting must be arranged in the field.

External air filters must also be installed without fail in order to prevent the intake of dust and grit.

#### (5) Thermal Insulation for Ducts

Ensure that all external air intake ducting is heat-insulated without fail. Failure to observe this may result in the build-up of condensation.

#### (6) External Air Intake Coupling

Ensure that the design for external air intake is coupled with the fan blower operations of the indoor unit.

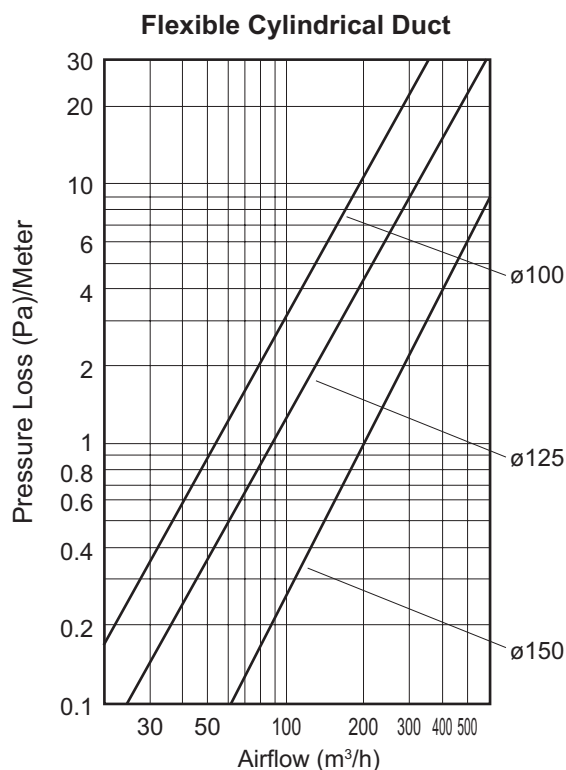
There are cases in which the dust that accumulates in the filter is blown into the room if the external air is fed from the filter. There are also cases in which the noise of external air being fed into the room can be heard from the indoor unit if external air is forcibly fed when the booster fan or other components on the indoor unit are not operating.

#### (7) Booster Fan Selection

Select the booster fan in accordance with the resistance of the external air intake duct (diagram on the pressure loss characteristics of the air flow volume for flexible cylindrical ducts) and the resistance prevalent inside the unit (external air intake volume & resistance within unit / operation noise characteristics).

#### (8) Attaching the External Air Intake Flange

Regarding the installation direction of the external air intake duct, refer to the Installation Instructions provided with the external air intake duct.



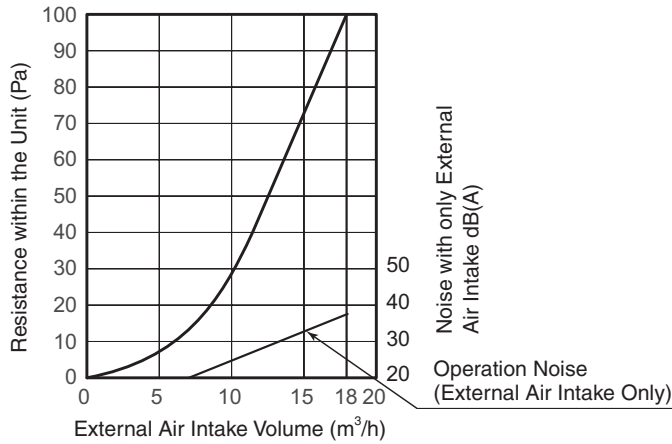
Air Flow Volume for Flexible Cylindrical Duct-Pressure Loss

## 1-9-2. External Air Intake Volume & Resistance Within Unit / Operation Noise Characteristics

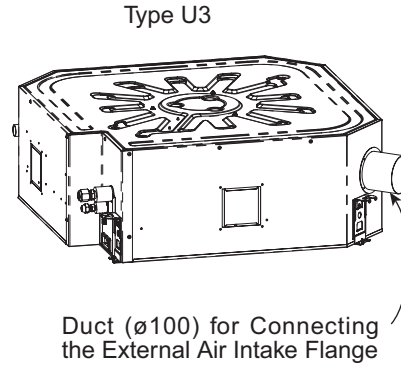
### 1-9-2-1. 4-Way Cassette (Type U3)

#### ● When an External Air Intake Flange (ø100) is in Use

##### External Air Intake Volume and Resistance and Operation Noise Characteristics within the Unit



##### With the External Air Intake Flange Attached



- Calculate the operation noise when external air is being fed by combining the noise when only external air is being fed as shown in the graph for operation noise characteristics and the operation noise of the unit as stipulated in the catalogue.
- The operation noise conforms to JIS standards and constitute measurements taken in an anechoic chamber 1.5 m directly beneath the indoor unit. Under normal circumstances, the values shown here are greater owing to the effects of surrounding noise and reverberation when the unit is actually installed.

#### The amount of external air that is possible to feed when it is fed directly into the unit (ø100)

Type	S-3650PU3E	S-6071PU3E
Permissible Air Intake Volume (m <sup>3</sup> /h)	15	17 (60)* 18 (71)*

\* For S-6071PU3E (60) and S-6071PU3E(71), see the Combination Table items 60 and 71 on page 15.

#### NOTE

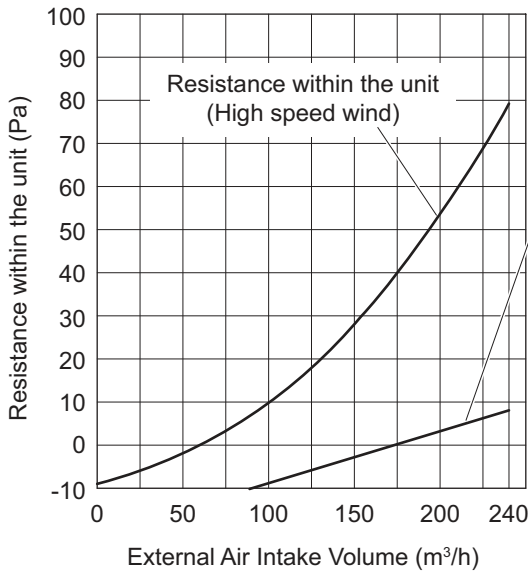
The operation noise for models that use small units is lower, so use values that are within the range shown in the above table. Using values that exceed these will result in noise when only external air is fed being louder than the noise emitted from the unit.



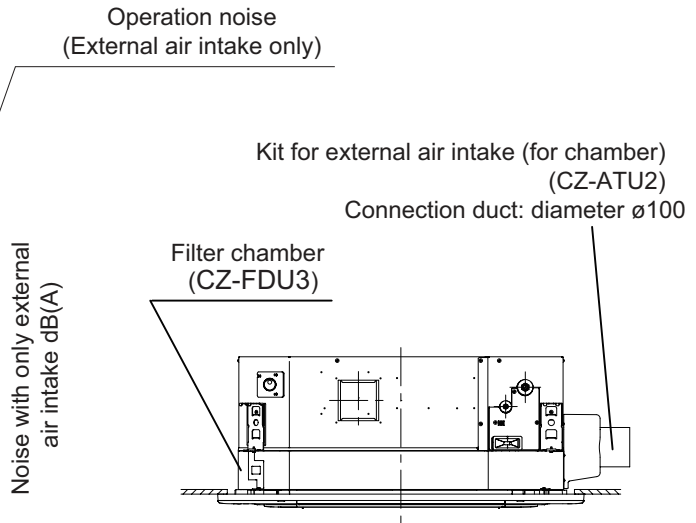
**CAUTION**

Use the following diagram along with the section "1-9-1. Precautions Regarding External Air Intake"

● **In a Case of External Air Intake Using Air Intake Chamber (CZ-FDU3+CZ-ATU2)**



**External Air Intake Volume & Resistance Within Unit/  
Operation Noise Characteristics**



**With the External Air Intake Chamber Attached**

1. Calculate the operation noise when external air is being fed by combining the noise when only external air is being fed as shown in the diagram for operation noise characteristics and the operation noise of the unit as stipulated in the catalogue.
2. The operation noise conforms to JIS standards and constitute measurements taken in an anechoic chamber 1.5m directly below the indoor unit. Under normal circumstances, the diagram shown above is greater owing to the effects of surrounding noise and reverberation when the unit is actually installed.

**The amount of external air that is possible to feed when external air intake chamber is in use (CZ-FDU3+CZ-ATU2)**

Type	S-3650PU3E	S-6071PU3E
Permissible air intake volume (m³/h)	180	190 (60)* 240 (71)*

\* For S-6071PU3E (60) and S-6071PU3E (71), see the Combination Table items 60 and 71 on page 15.

\* The operation noise for models that use small units is lower, so use values that are within the range shown in the above table. Using values that exceed these will result in noise when only external air is fed being louder than the noise emitted from the unit.

● **Sample selection of booster fans**

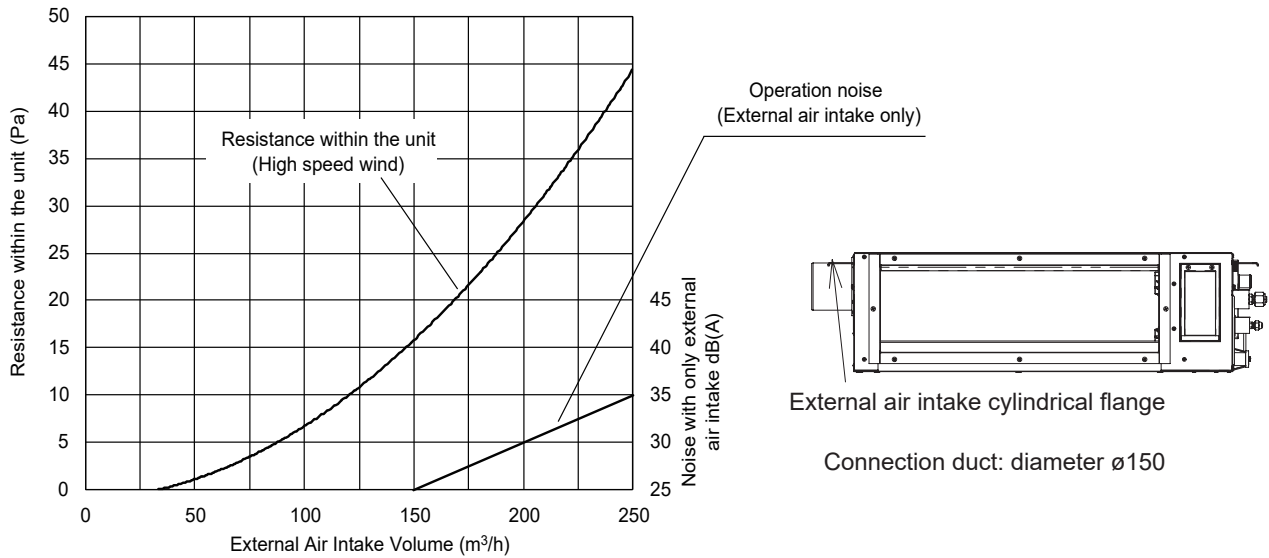
In a case of necessity at 200m³/h of external air intake:

1. Resistance within the unit      Diagram from "Resistance within the unit"      55 Pa
  2. Duct resistance in case of duct with 4m length
    - Duct resistance      Diagram from "Air Flow Volume for Flexible Cylindrical Duct-Pressure Loss"      40 Pa      (=10 Pa/m × 4m)
- 
- Total 95 Pa

Therefore, a booster is required to save a total 95 Pa of static pressure.

## 1-9-2-2. Middle Static Pressure Duct (Type F3)

### In a Case of External Air Intake to Unit Directly (Using external air intake cylindrical flange)



**External Air Intake Volume & Resistance Within Unit/  
Operation Noise Characteristics**

**With the External Air Intake Flange Attached**

1. Calculate the operation noise if external air is being fed by combining the noise when only external air is being fed as shown in the diagram for operation noise characteristics and the operation noise of the unit as stipulated in the catalogue.
2. The operation noise conforms to JIS standards and constitute measurements taken in an anechoic chamber 1.5m directly below the indoor unit. Under normal circumstances, the diagram shown above is greater owing to the effects of surrounding noise and reverberation when the unit is actually installed.

### The amount of external air intake that is possible to feed when it is fed directly into the unit

Type	S-3650PF3E	S-6071PF3E
Permissible Air Intake Volume (m³/h)	53 (36)* 65 (50)*	74 (60)* 105 (71)*

\*For S-3650PF3E (36) and S-3650PF3E (50), see the Combination Table items 36 and 50 on page 15.

\*For S-6071PF3E (60) and S-6071PF3E (71), see the Combination Table items 60 and 71 on page 15.

\* The operation noise for models that use small units is lower, so use values that are within the range shown in the above table. Using values that exceed these will result in noise when only external air is fed being louder than the noise emitted from the unit.



## 1-10. Electrical Wiring

### ■ Indoor Unit

#### 1. Type U3

##### S-3650PU3E, S-6071PU3E

#### ● 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 circuit capacity, 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 both sides.

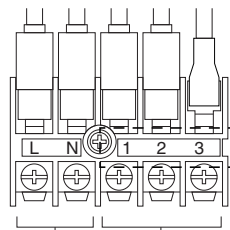
#### ⚠ CAUTION

Check local electrical codes and regulations before wiring. Also, check any specified instruction or limitations.

#### ● Recommended Wire Length and Wire Diameter for Power Supply System

Check the type of the outdoor unit terminal board as illustrated below and make connection.

- If 1, 2 and 3 are shown on the terminal board, it is for 3-line connection.



Power supply cable      Connection cable between outdoor and indoor unit

#### Indoor unit

(Type of 3-line connection [1, 2 and 3] with indoor and outdoor units)

Type	Connection cable between outdoor and indoor unit
	(F) Outdoor unit U-36 ~ 71PZ3E5 1.5 mm <sup>2</sup>
U3	Max. 40 m

#### Control wiring

(C) Inter-unit (between integrated control system and indoor units) control wiring	(D) Remote control wiring	(E) Remote control wiring for group control
0.75 mm <sup>2</sup> (AWG #18) Use shielded wiring*	0.75 mm <sup>2</sup> (AWG #18)	0.75 mm <sup>2</sup> (AWG #18)
Max. 1,000 m	(D) + (E) : Max. 500 m    (E) : Max. 200 m The above descriptions can be used for the model CZ-RTC4 or CZ-RTC5B. For other remote controllers, refer to the manual of each unit.	

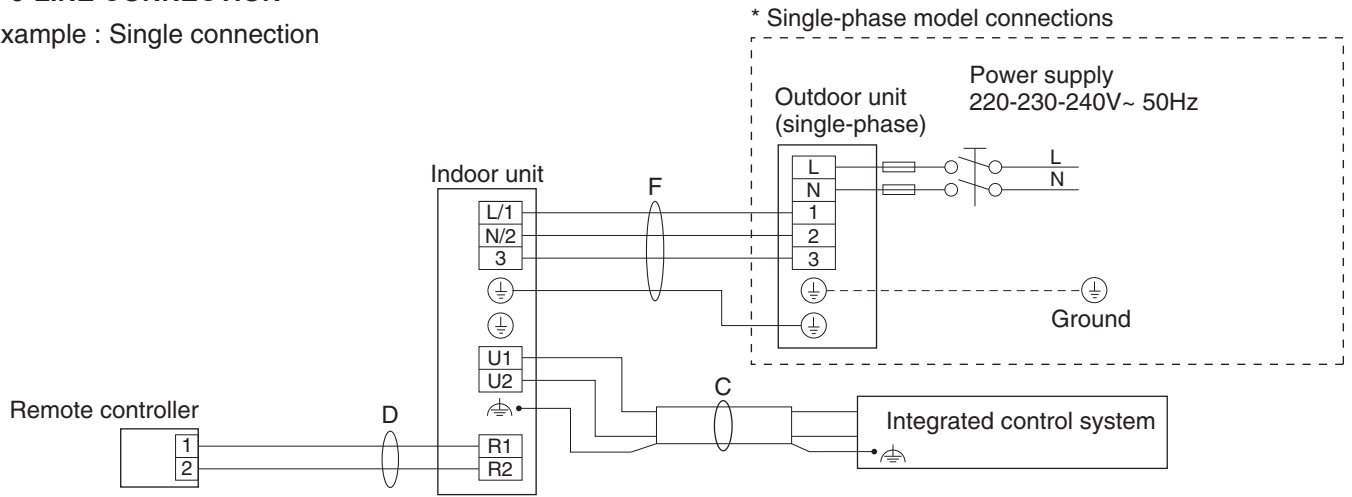
#### NOTE

\* With ring-type wire terminal.

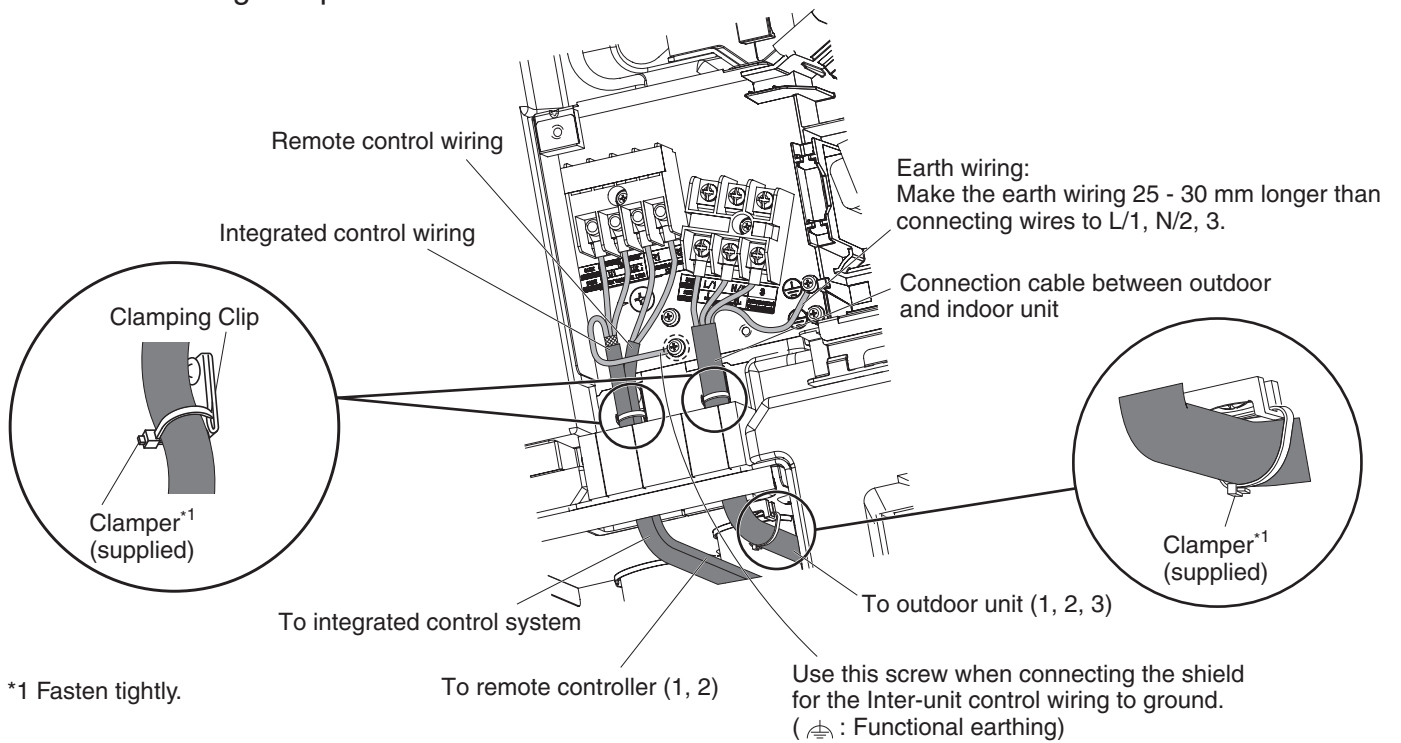
● Wiring System Diagrams

■ 3-LINE CONNECTION

Example : Single connection



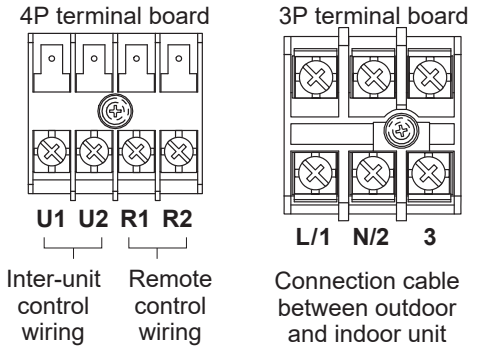
Indoor unit wiring sample



\*1 Fasten tightly.

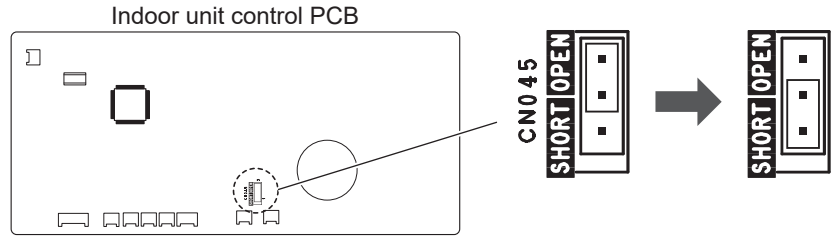
**NOTE**

- (1) See the section “● Recommended Wire Length and Wire Diameter for Power Supply System” on page 1-10-1-1-1 for the explanation of “C”, “D”, “E” and “F” under the section “Wiring System Diagrams” on page 1-10-1-1-2.
- (2) The basic connection diagram of the indoor unit shows the terminal boards, so the terminal boards in your equipment may differ from the diagram.
- (3) Refrigerant Circuit address should be set before turning the power on.
- (4) Regarding Refrigerant Circuit address setting, refer to the installation instructions supplied with the remote controller (Optional). Auto address setting can be executed by remote controller automatically.

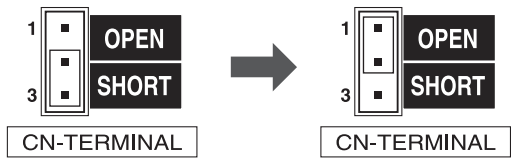


**CAUTION**

- (1) When linking the outdoor units in a network, it is necessary to install the terminating resistance. The installation method of the terminating resistance is different according to the connecting procedure of the inter-unit control wiring in the link.
  - In case that the inter-unit control wiring in the link are all 3-line connection:
    - Set the terminating resistance on the indoor unit control PCB.
    - The setting of the terminating resistance at shipment is OPEN side (inoperative).
    - If the shorting socket is replaced as shown below, the terminating resistance is SHORT side (operative).
    - Change the setting of the terminating resistance at the nearest indoor unit and farthest indoor unit from the integrated control system to SHORT side (operative).
    - The setting of 3 or more terminating resistances to SHORT side (operative) is prohibited.

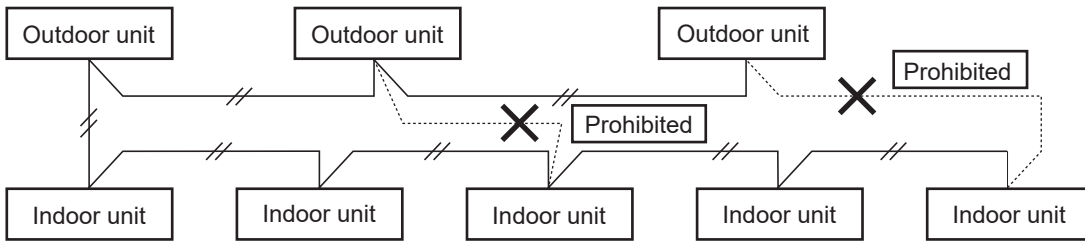


- In case that the inter-unit control wiring in the link are mixed with 3-line and 2-line connections:
  - Set the terminating resistance with the TERMINAL pin (CN-TERMINAL) on the \*outdoor unit control PCB.
  - The setting of the terminating resistance at shipment is SHORT side (operative).
  - Leave one unit in short circuit condition among outdoor units in the link. Change to OPEN for other units.
  - For a system without link (no wiring connection between outdoor units), do not remove the short plug.

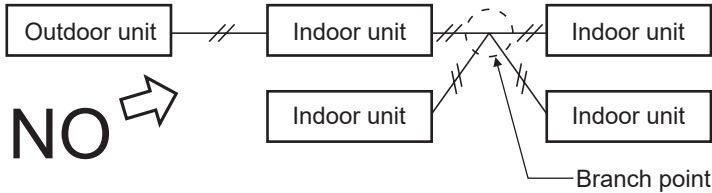


\* Outdoor unit is connected by 2-line connection.

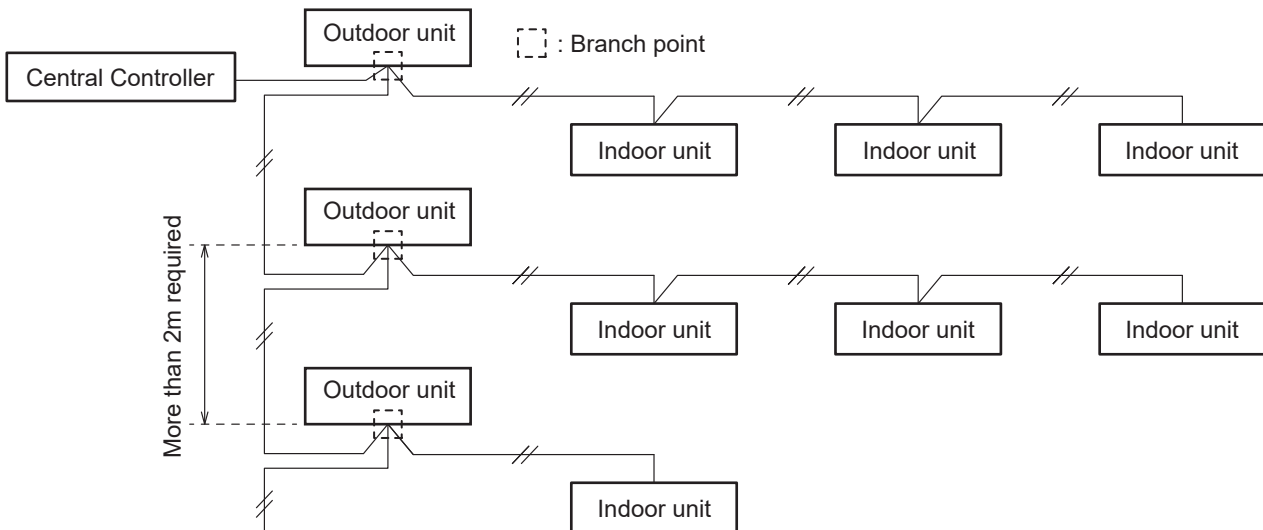
- (2) Do not install the inter-unit control wiring in a way that forms a loop.



- (3) Do not install inter-unit control wiring such as star branch wiring. Star branch wiring causes mis-address setting.

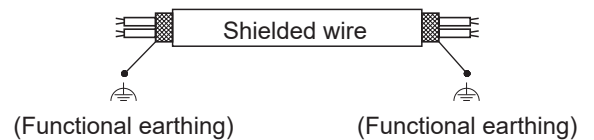


- (4) If branching the inter-unit control wiring, the number of branch points should be 16 or fewer.



- (5) Use shielded wires for inter-unit control wiring (C) and ground the shield on both sides, otherwise misoperation from noise may occur.

Connect wiring as shown in Section "Wiring System Diagrams" on page 1-10-1-1-2.



- (6) • In the case of 3-line connection, connection cable between outdoor and indoor unit shall be approved polychloroprene sheathed flexible cord. Type designation 60245 IEC57 (H05RN-F, GP85PCP etc.) or heavier cord.  
• Use the standard power supply cables for Europe (such as H05RN-F or H07RN-F which conform to CENELEC (HAR) rating specifications) or use the cables based on IEC standard. (60245 IEC57, 60245 IEC66)

## ⚠ WARNING

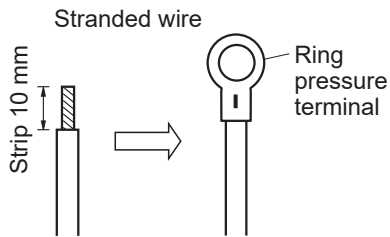
Loose wiring may cause the terminal to overheat or result in unit malfunction. A fire hazard may also occur. Therefore, ensure that all wiring is tightly connected.

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 terminal screw.

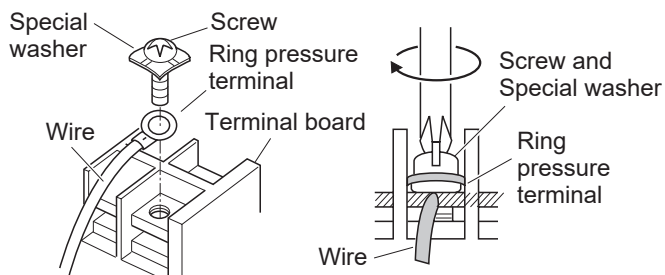
## How to connect wiring to the terminal

### ■ For stranded wiring

- (1) Cut the wire end with cutting pliers, then strip the insulation to expose the stranded wiring about 10 mm and tightly twist the wire ends.



- (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.

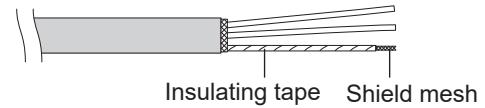


### ■ Examples of shield wires

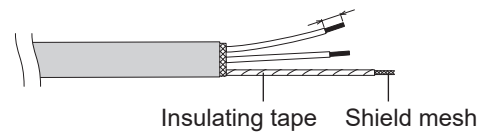
- (1) Remove cable coat not to scratch braided shield.



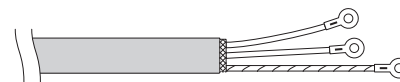
- (2) Unbraid the braided shield carefully and twist the unbraided shield wires tightly together. Insulate the shield wires by covering them with an insulation tube or wrapping insulating tape around them.



- (3) Remove coat of signal wire.



- (4) Attach ring pressure terminals to the signal wires and the shield wires insulated in Step (2).



## 2. Type F3

### S-3650PF3E, S-6071PF3E

#### ● 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 circuit capacity, 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 both sides.



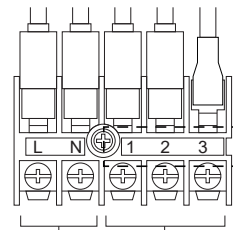
#### CAUTION

Check local electrical codes and regulations before wiring. Also, check any specified instruction or limitations.

#### ● Recommended Wire Length and Wire Diameter for Power Supply System

Check the type of the outdoor unit terminal board as illustrated below and make connection.

- If 1, 2 and 3 are shown on the terminal board, it is for 3-line connection.



Power supply cable      Connection cable between outdoor and indoor unit

#### Indoor unit

(Type of 3-line connection [1, 2 and 3] with indoor and outdoor units)

Type	Connection cable between outdoor and indoor unit
	(F) Outdoor unit U-36 ~ 71PZ3E5 1.5 mm <sup>2</sup>
F3	Max. 40 m

#### Control wiring

(C) Inter-unit (between Integrated control system and indoor units) control wiring	(D) Remote control wiring	(E) Remote control wiring for group control
0.75 mm <sup>2</sup> (AWG #18) Use shielded wiring*	0.75 mm <sup>2</sup> (AWG #18)	0.75 mm <sup>2</sup> (AWG #18)
Max. 1,000 m	(D) + (E) : Max. 500 m    (E) : Max. 200 m The above descriptions can be used for the model CZ-RTC4 or CZ-RTC5B. For other remote controllers, refer to the manual of each unit.	

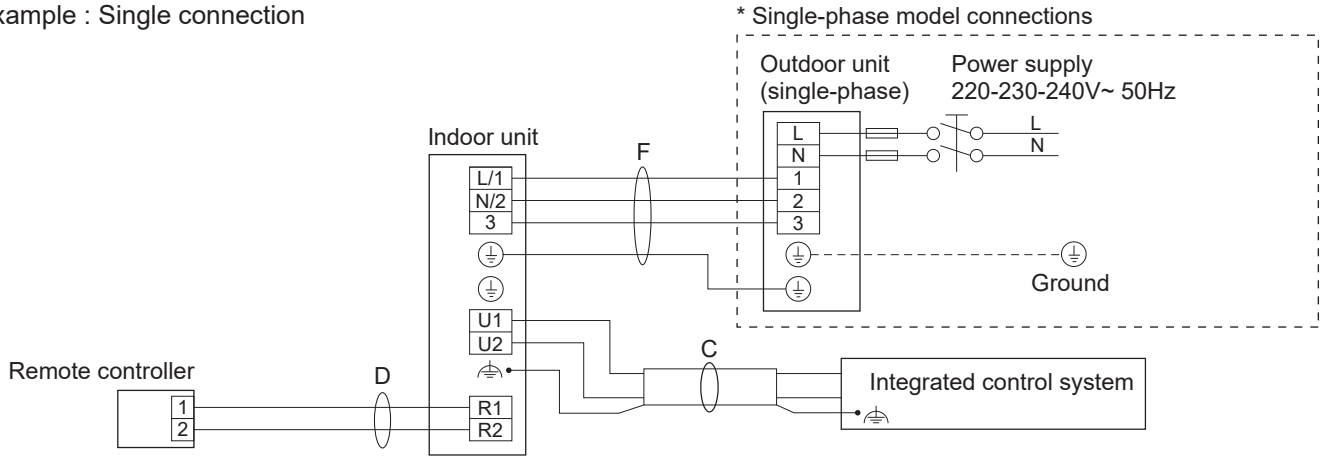
#### NOTE

\* With ring-type wire terminal.

● Wiring System Diagrams

■ 3-LINE CONNECTION

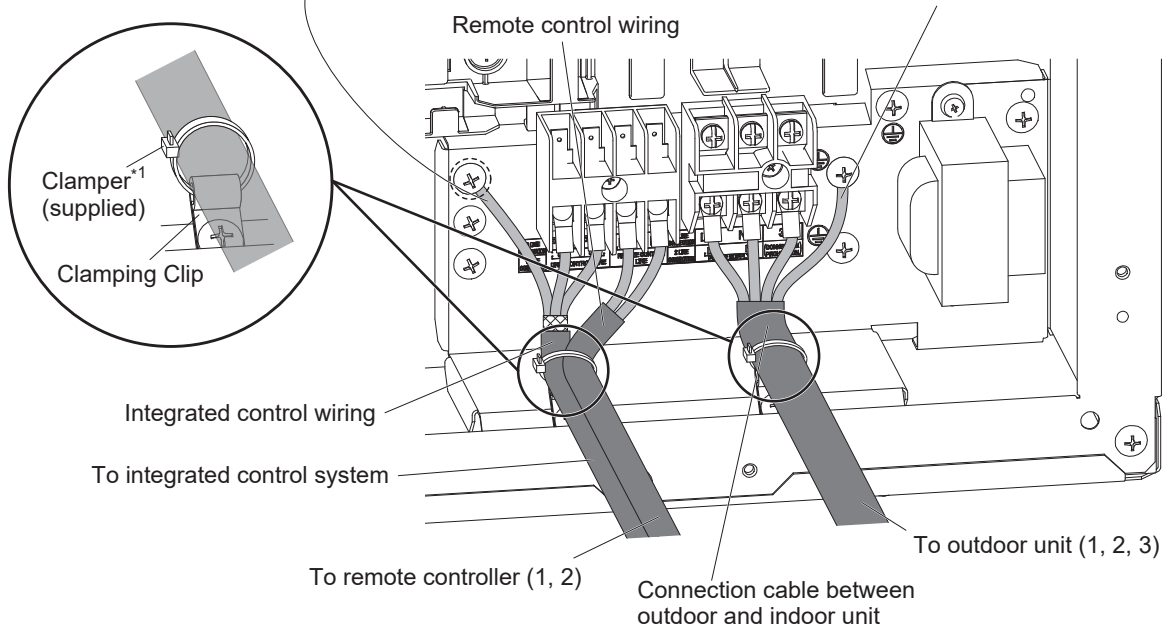
Example : Single connection



Indoor unit wiring sample

Use this screw when connecting the shield for the Inter-unit control wiring to ground.  
( : Functional earthing)

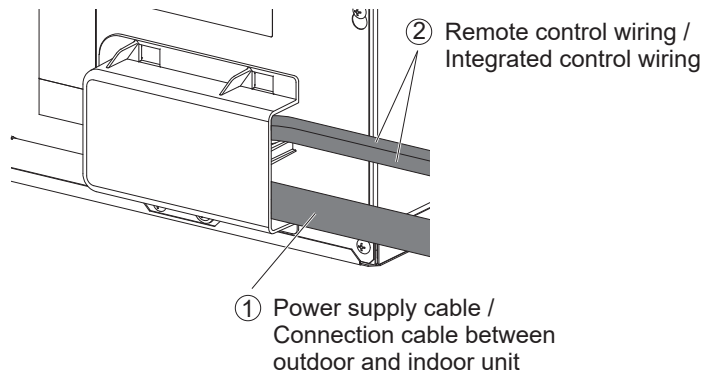
Earth wiring:  
Make the earth wiring 25 - 30 mm longer than connecting wires to L/1, N/2, 3.



\*1 Fasten tightly.

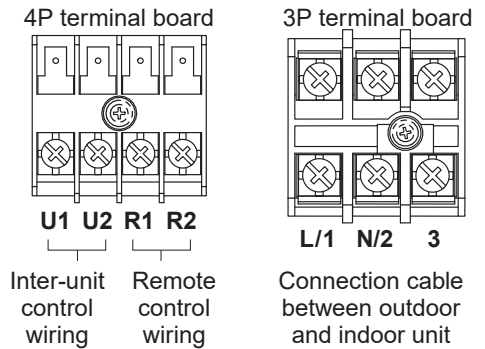
After all of the wires are connected, close the lid of the electrical component box.

Make the distance between two cables (① and ②) as shown in the figure to the right.



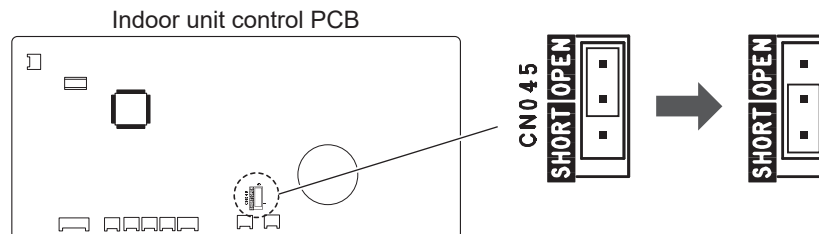
### NOTE

- (1) See the section “● Recommended Wire Length and Wire Diameter for Power Supply System” on page 1-10-1-2-1 for the explanation of “C”, “D”, “E” and “F” under the section “Wiring System Diagrams” on page 1-10-1-2-2.
- (2) The basic connection diagram of the indoor unit shows the terminal boards, so the terminal boards in your equipment may differ from the diagram.
- (3) Refrigerant Circuit address should be set before turning the power on.
- (4) Regarding Refrigerant Circuit address setting, refer to the installation instructions supplied with the remote controller (Optional).  
Auto address setting can be executed by remote controller automatically.

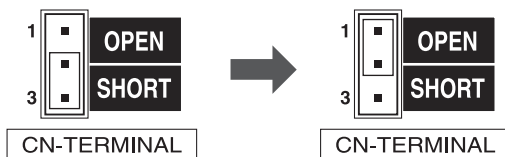


### CAUTION

- (1) When linking the outdoor units in a network, it is necessary to install the terminating resistance. The installation method of the terminating resistance is different according to the connecting procedure of the inter-unit control wiring in the link.
  - In case that the inter-unit control wiring in the link are all 3-line connection:
    - Set the terminating resistance on the indoor unit control PCB.
    - The setting of the terminating resistance at shipment is OPEN side (inoperative).
    - If the shorting socket is replaced as shown below, the terminating resistance is SHORT side (operative).
    - Change the setting of the terminating resistance at the nearest indoor unit and farthest indoor unit from the integrated control system to SHORT side (operative).
    - The setting of 3 or more terminating resistances to SHORT side (operative) is prohibited.



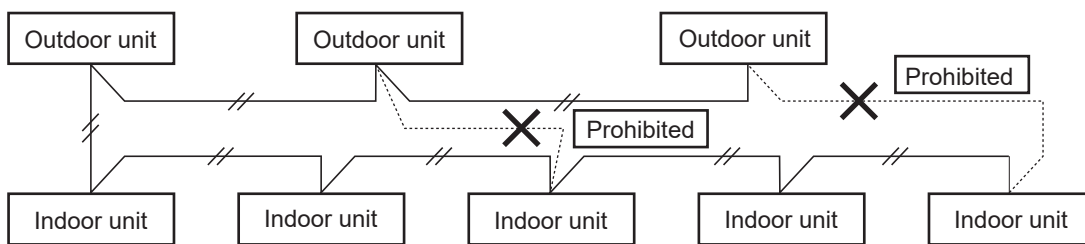
- In case that the inter-unit control wiring in the link are mixed with 3-line and 2-line connections:
  - Set the terminating resistance with the TERMINAL pin (CN-TERMINAL) on the \*outdoor unit control PCB.
  - The setting of the terminating resistance at shipment is SHORT side (operative).
  - Leave one unit in short circuit condition among outdoor units in the link. Change to OPEN for other units.
  - For a system without link (no wiring connection between outdoor units), do not remove the short plug.



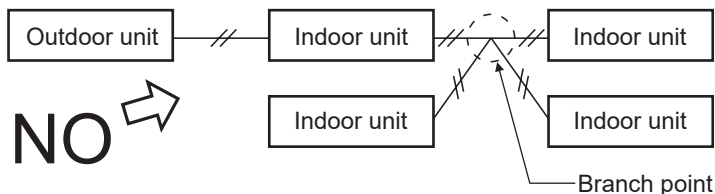
\* Outdoor unit is connected by 2-line connection.



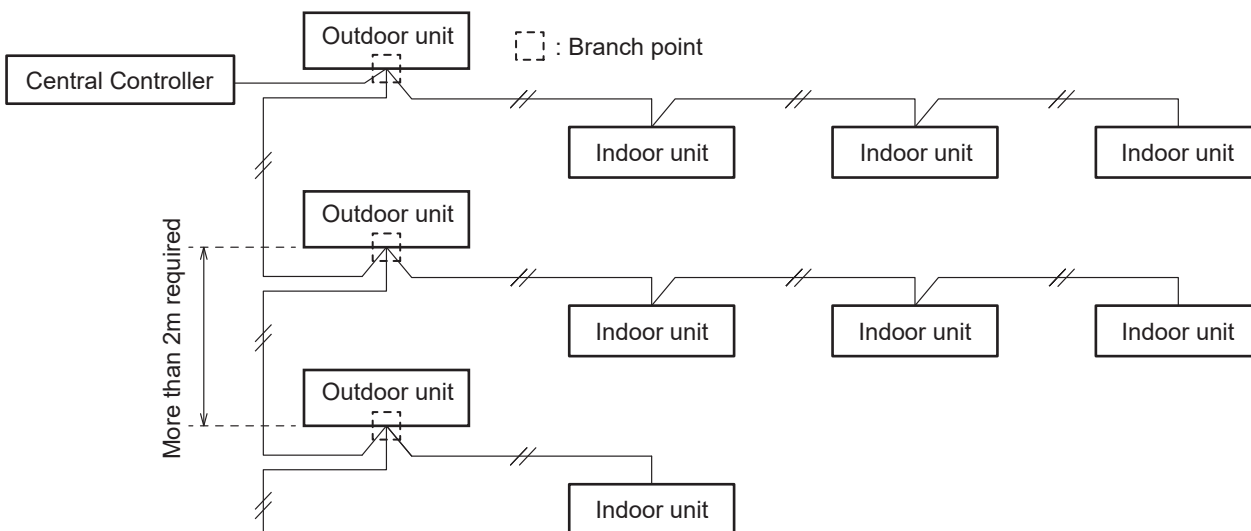
(2) Do not install the inter-unit control wiring in a way that forms a loop.



(3) Do not install inter-unit control wiring such as star branch wiring. Star branch wiring causes mis-address setting.

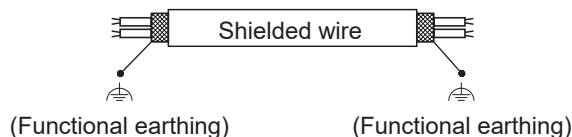


(4) If branching the inter-unit control wiring, the number of branch points should be 16 or fewer.



(5) Use shielded wires for inter-unit control wiring (C) and ground the shield on both sides, otherwise misoperation from noise may occur.

Connect wiring as shown in Section "Wiring System Diagrams" on page 1-10-1-2-2.



- (6) • In the case of 3-line connection, connection cable between outdoor and indoor unit shall be approved polychloroprene sheathed flexible cord. Type designation 60245 IEC57 (H05RN-F, GP85PCP etc.) or heavier cord.
- Use the standard power supply cables for Europe (such as H05RN-F or H07RN-F which conform to CENELEC (HAR) rating specifications) or use the cables based on IEC standard. (60245 IEC57, 60245 IEC66)

**! WARNING**

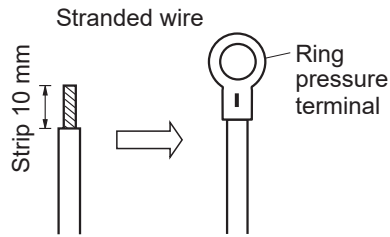
Loose wiring may cause the terminal to overheat or result in unit malfunction. A fire hazard may also occur. Therefore, ensure that all wiring is tightly connected.

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 terminal screw.

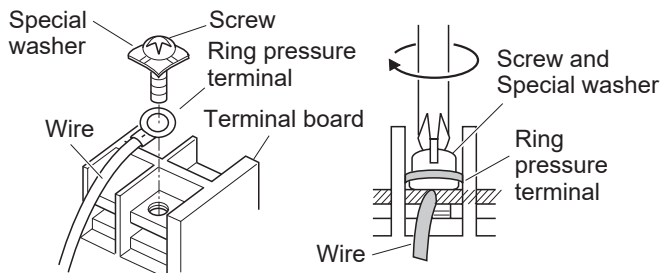
## How to connect wiring to the terminal

### ■ For stranded wiring

- (1) Cut the wire end with cutting pliers, then strip the insulation to expose the stranded wiring about 10 mm and tightly twist the wire ends.



- (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.

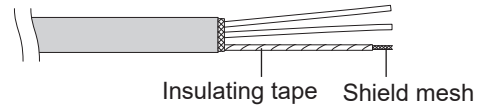


### ■ Examples of shield wires

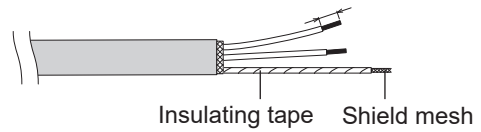
- (1) Remove cable coat not to scratch braided shield.



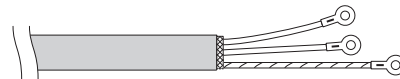
- (2) Unbraid the braided shield carefully and twist the unbraided shield wires tightly together. Insulate the shield wires by covering them with an insulation tube or wrapping insulating tape around them.



- (3) Remove coat of signal wire.





- (4) Attach ring pressure terminals to the signal wires and the shield wires insulated in Step (2).



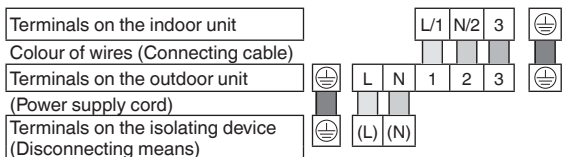
■ Outdoor Unit

1. U-36PZ3E5, U-50PZ3E5, U-60PZ3E5, U-71PZ3E5

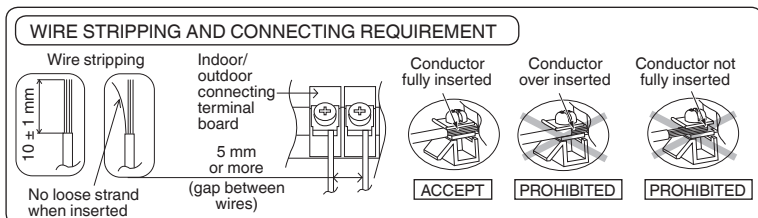
**ELECTRICAL WIRING**

 <b>Warning</b>	This air conditioner must be installed in accordance with national wiring regulations.
	Cables connected to outdoor unit must be approved polychloroprene sheathed type 60245 IEC 57 or H05RN-F/H07RN-F or heavier.
	The units must be connected to the supply cables for fixed wiring by qualified technician. Circuit breaker must be incorporated in the fixed wiring in accordance with the national wiring regulations. The circuit breaker must be approved, suitable for the voltage and current ratings of equipment and have a contact separation by 3mm in all poles. When the supply cable is damaged, it must be replaced by qualified technician.
	Be sure to install a current leakage breaker, main switch and fuse to the main power supply, otherwise electric shocks may result.
	Be sure to connect the unit to secure earth connection. If the earthing work is not carried out properly, electric shocks may result. 
	Wiring shall be connected securely by using specified cables and fix them securely so that external force of the cables may not transfer to the terminal connection section. Imperfect connection and fixing leads to fire, etc.

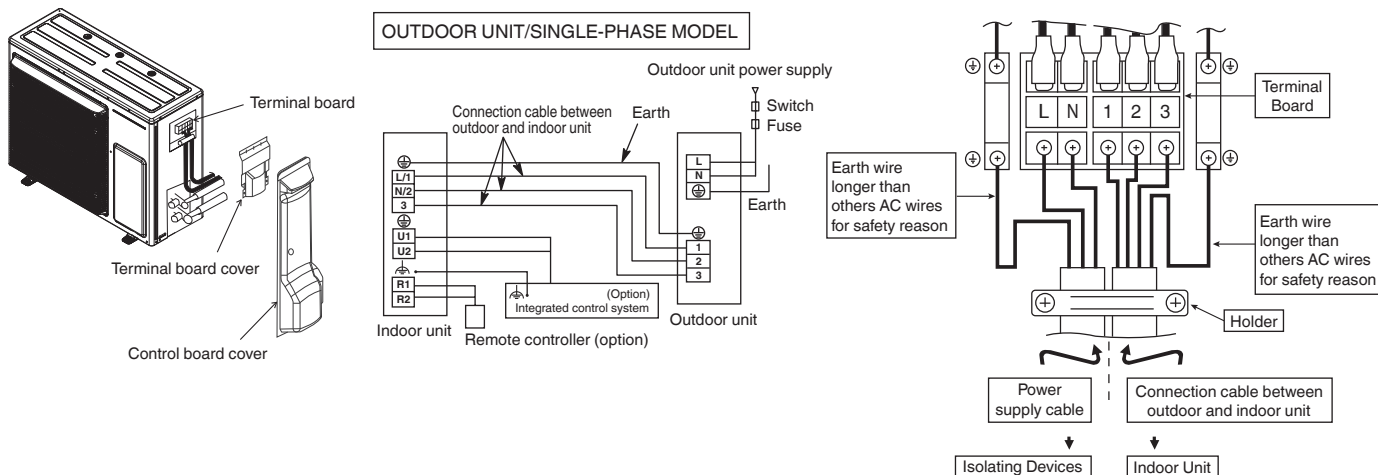
- Remove the control board cover and terminal board cover from the unit by loosening the screw.
- Ensure to connect the electrical cable connections and clamp the wires securely to the terminal connections using cord clamps so that no undue force is placed on the wires (power source cable, connection cable between indoor and outdoor unit, earth lead wire).
- Connect the power supply cord and connecting cable between indoor unit and outdoor unit according to the diagram below.



- For wire stripping and connection requirement, refer diagram below.



- Do not install a phase advance capacitor for power factor improvement. (It does not improve the power factor and will cause abnormal overheating.)
- Do not bind the excess cables together and place them inside this unit.
- Make sure that terminal board cover and control board cover mount correctly.
- Use the appropriate screwdriver for tightening the terminal screws. Small sized screwdriver damages the head of the screw and cannot tighten it properly.
- There is risk of damaging the screw if the terminal screw is over tightened. Tighten with the appropriate torque 1.57N·m ~ 1.96N·m (16kgf·cm~20kgf·cm).



This equipment complies with EN/IEC 61000-3-12 provided that the short-circuit power  $S_{sc}$  is greater than or equals to  $\times 2$  kVA at the interface point between the user's supply and the public system. It is the responsibility of the installer or user of the equipment to ensure; by consultation with the distribution network operator if necessary that the equipment is connected only to supply with a short-circuit power  $S_{sc}$  greater than or equals to  $\times 2$  kVA.

$S_{sc}$  : Short circuit power  : functional earthing (for the shielded cable)


Outdoor unit


Model	(A) Power supply cable	Min. wire size (mm <sup>2</sup> )	Time delay fuse or circuit capacity (A)
U-36PZ3E5	220-230-240V ~	2.5	15
U-50PZ3E5	220-230-240V ~	2.5	15
U-60PZ3E5	220-230-240V ~	2.5	20
U-71PZ3E5	220-230-240V ~	2.5	20


Control wiring

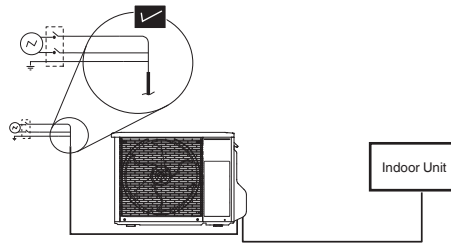
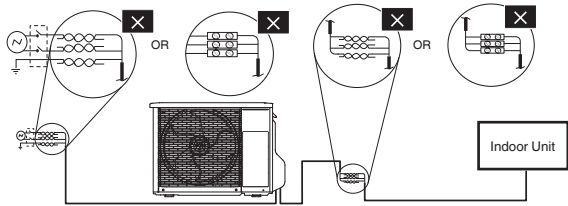
Type	Connection cable between outdoor and indoor unit	
	Outdoor unit	Max. length
1.5 mm <sup>2</sup>	U-36 ~ 71PZ3E5	40 m

- Refer to the installation instruction manual provided with the indoor unit.
- The product meets the technical requirements of EN/IEC 61000-3-3.
- Decide the length and size of the power supply cable based on the maximum ampere tabulated above in accordance with the national wiring regulations.
- Select the fuse(s) and/or circuit breaker(s) from the types and ratings suitable for the maximum ampere tabulated above in accordance with the national wiring regulations.
- An RCD suitable for use with inverters, resistant to high frequency noise, is most suitable. RCD's intended for protection to include high frequency currents are unnecessary and should be avoided, as potentially causing nuisance tripping, in this application.
- If capacity of power supply circuit and enforcement are not enough, it can causes the electric shock and a fire.

**WARNING**  **RISK OF FIRE**  
JOINING OF WIRES MAY CAUSE OVERHEATING AND FIRE.



 Do not joint wires.



- ❗ Use complete wire without joining.
- ❗ Wire connection in this area must follow to national wiring rules.

## 1-11. Installation Instructions

### ■ Indoor Unit

#### 1. 4-Way Cassette Type (U3)

S-3650PU3E, S-6071PU3E

#### ● SELECTING THE INSTALLATION SITE

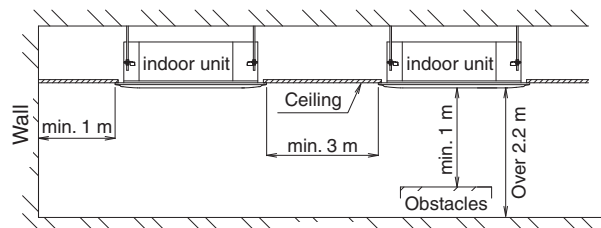
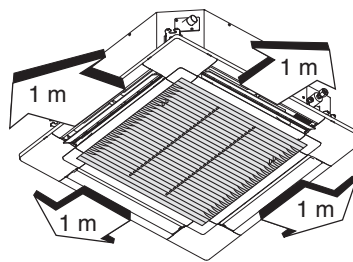
##### AVOID:

- 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.
- the limitation of the tubing length between the indoor and the outdoor units should be referred to the Installation Instructions of the outdoor unit.
- allow room for mounting the remote controller about 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.

4-Way Cassette Type



■ HOW TO INSTALL THE INDOOR UNIT

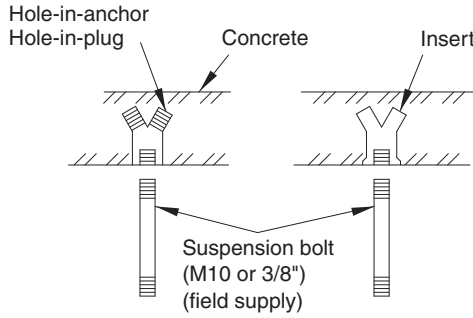
● Preparation for Suspending

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

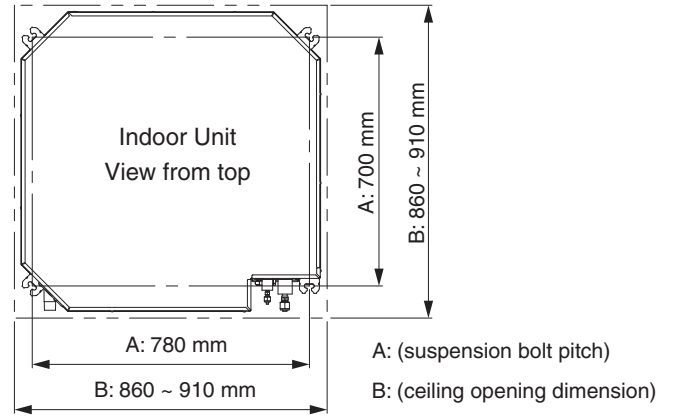
Note: For DC Fan Tap Change Procedure for 4-Way Cassette, see page 1-11-1-14.

● Suspending the Indoor Unit

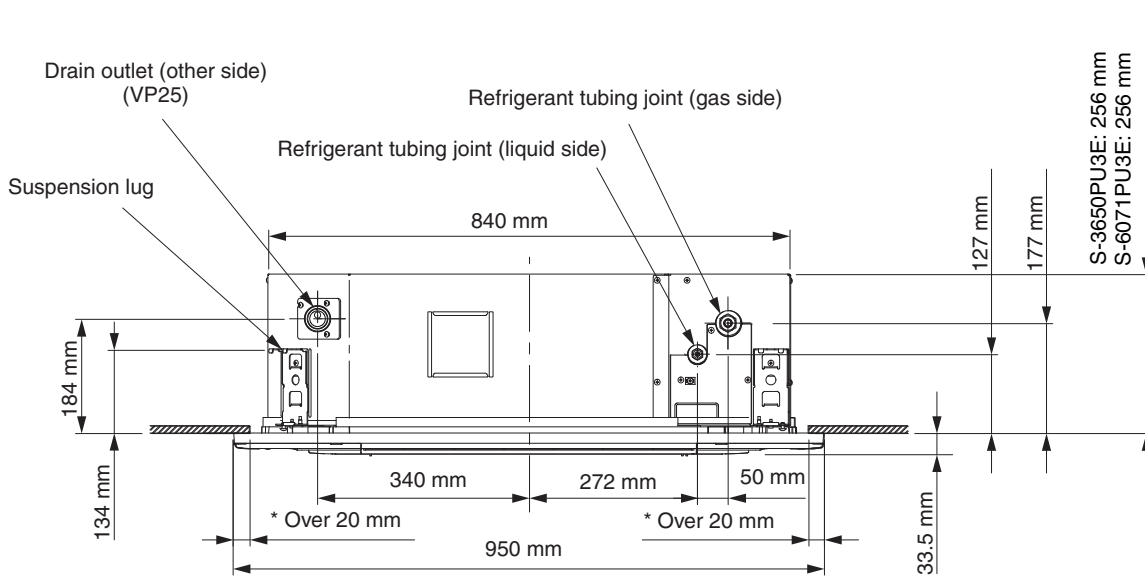
(1) Fix the suspension bolts securely in the ceiling using the method shown in the diagrams, by attaching them to the ceiling support structure, or by any other method that ensures that the unit will be securely and safely suspended.



(2) Follow the diagram to make the holes in the ceiling.



(3) Determine the pitch of the suspension bolts using the supplied full-scale installation diagram (printed on container box). The diagram show the relationship between the positions of the suspension fitting, unit, and panel. Use the nut (field supply) and washer (supplied) for upper and lower position of the suspension lug.



\* The overlapping portion between the ceiling and panel for cassette should be kept over 20 mm.

## ● Placing the Unit Inside the Ceiling

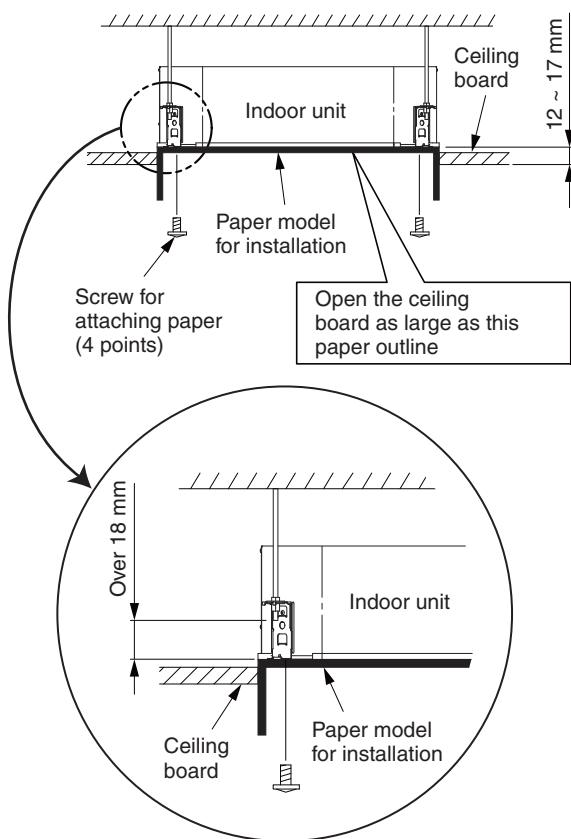
This unit is equipped with the drain pump. Check a tape measure or carpenter's level.

Before installing the panel for cassette, complete the work of drain pipe and refrigerant tube installation.

- (1) When placing the unit inside the ceiling, determine the pitch of the suspension bolts using the supplied full-scale installation diagram.

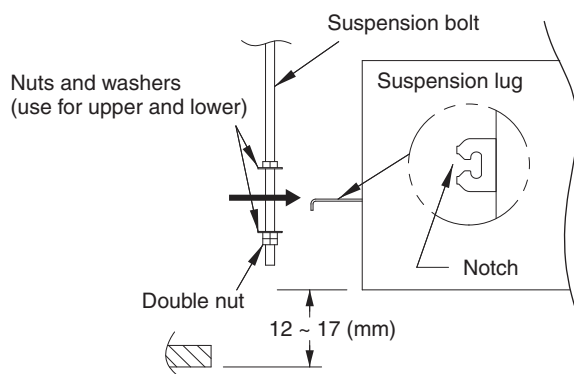
Tubing and wiring must be laid inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the tubing and wiring into position for connection to the unit before placing the unit inside the ceiling.

- (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 18 mm.



Full-scale installation diagram  
(printed on top of container box)

- (3) Thread the 3 hexagonal nuts and 2 washers onto each of the 4 suspension bolts. 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 12 to 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.

## ● Installing the Drain Pipe

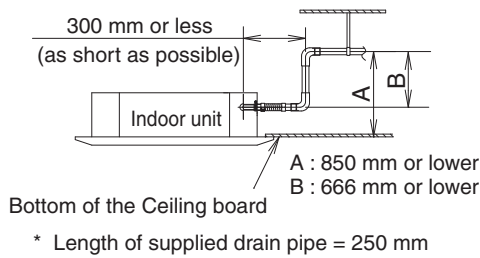
### Before Performing the Installation Drain Piping

#### (1) Limitations of Raising the Drain Pipe Connection



#### CAUTION

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

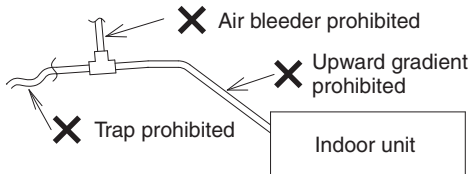


#### (2) Limitations of Drain Pipe Connection

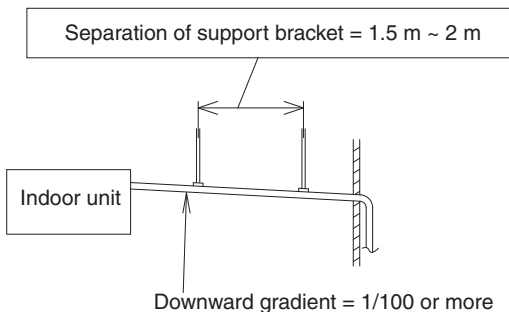


#### CAUTION

- 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.
- Do not install an air bleeder as this may cause water to spray from the drain pipe outlet.
- Do not provide U-trap or bell-shaped trap in the middle of the drain pipe. Doing so will cause abnormal sound.



- Make sure the drain pipe has a downward gradient (1/100 or more; downward from drain port connection).

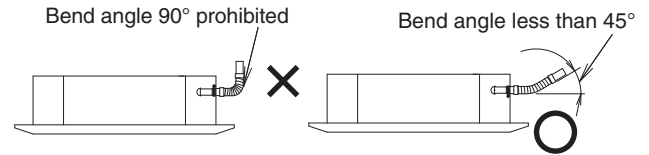


#### (3) Limitations of Drain Hose Connection

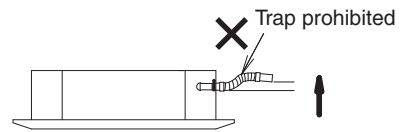


#### CAUTION

- Do not bend the supplied drain hose 90° or more. Bend it less than 45°.



- Do not make a trap in the middle of the supplied drain hose. Doing so will cause abnormal sound.





### Installing the Drain Pipe

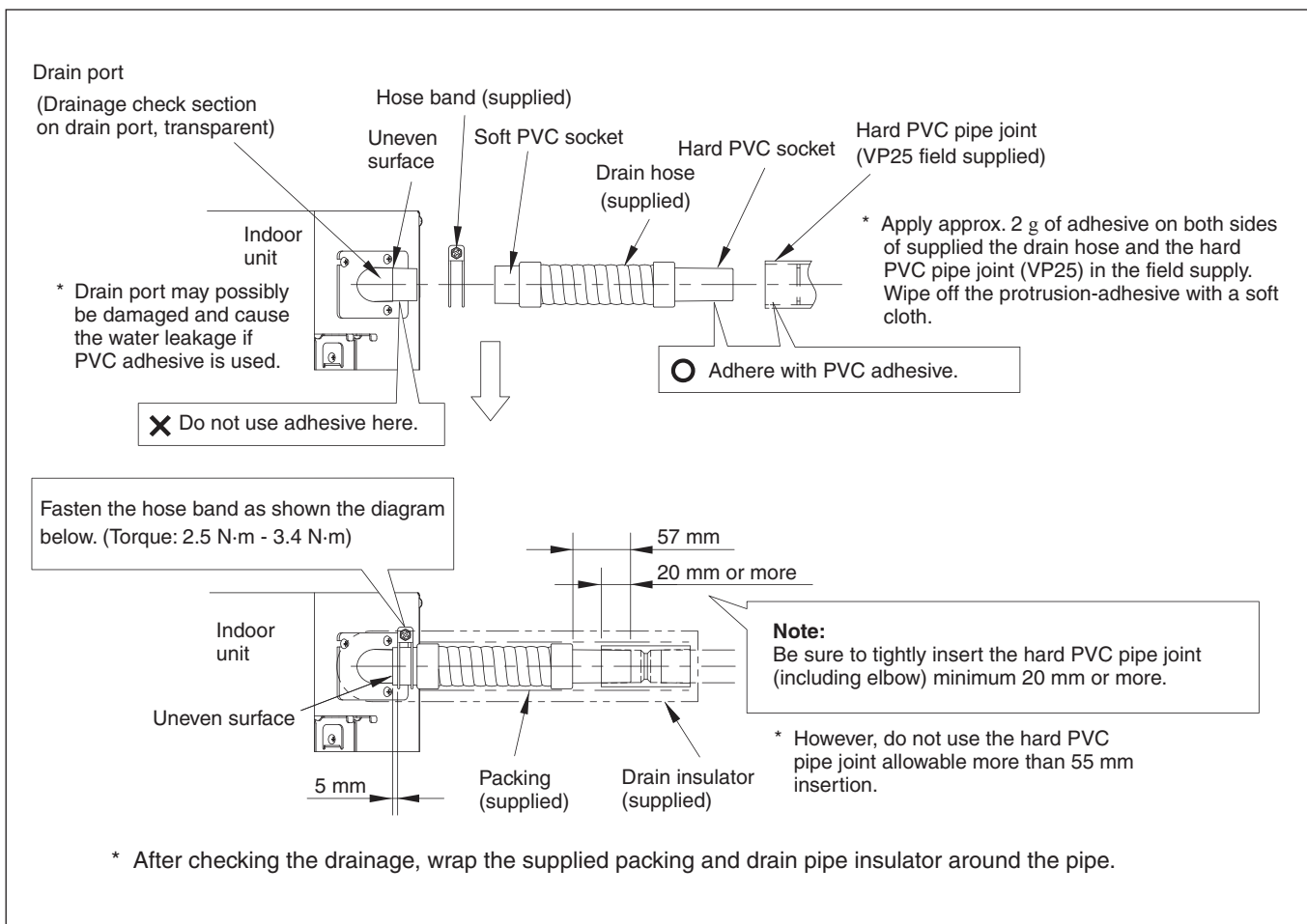


- Do not apply force to the drain port when connecting the drain pipe. Install and fix it near the indoor unit as close as possible.
- Do not use adhesive when connecting the drain port pipe and the drain hose.

(1) How to Install the Drain Pipe

- 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 uneven surface of the drain port pipe.

- 3) Move the hose band so that the center position of the hose band can be placed approx. 30 mm away from the external plate of the indoor unit. See diagram below.
- 4) Screw the drain hose tightly facing the screw of the hose band upward. (Torque: 2.5 N·m - 3.4 N·m) (If the screw is tightened beneath the drain hose, the troubles will be generated.)
- 5) Apply approx. 2 g of adhesive on both sides of the drain hose without connection of the hard PVC socket and the hard PVC pipe joint (VP25) in the field supply.
- 6) Connect the drain hose and the hard PVC pipe joint so that the adhesive area of both sides can be overlapped. Wipe off the protrusion-adhesive with a soft cloth.



## Checking the Drainage

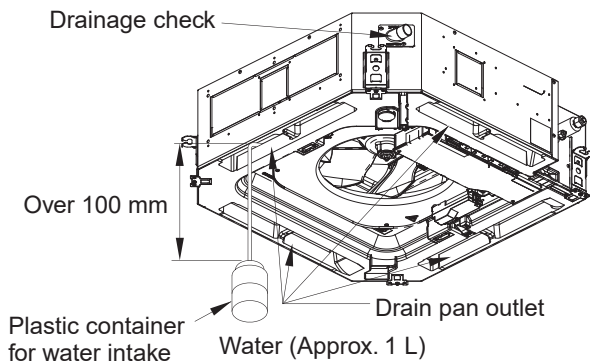


### CAUTION

Be careful since the fan will start when you short the pin on the indoor unit control PCB.

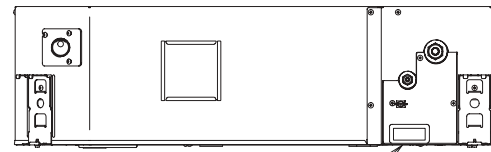
After wiring (see 1-10. ELECTRICAL WIRING) and drain piping are completed, use the following procedure to check that the water will drain smoothly. For this, prepare a bucket and wiping cloth to catch and wipe up spilled water.

- (1) Connect power to the power terminal board (L/1, N/2 terminals) inside the electrical component box.
- (2) Slowly pour about 1 L of water into the drain pan to check drainage.



- (3) Short the check pin (CHK) (6P : 1-4) on the indoor unit control PCB and operate the drain pump. Check the water flow through the transparent drain pipe and see if there is any leakage.
  - \* If the check pin (CHK) (6P:1-4) is shorted, the fan starts rotating at high speed and could cause injury.
- (4) When the check of drainage is complete, open the check pin (CHK) (6P : 1-4) and remount the tube cover.
- (5) Checkpoint after installation  
After installation of indoor and outdoor units, panels and electrical wiring, check the section "■ CHECKLIST AFTER INSTALLATION WORK" on page 1-11-1-1-29.

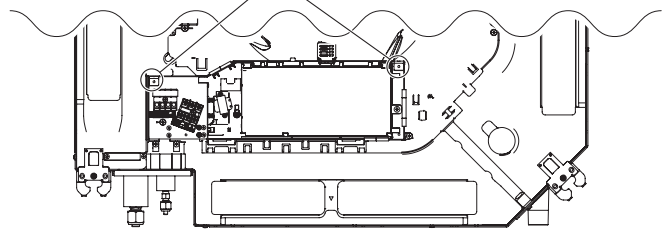
## ● Important Note for Wiring 4-Way Cassette Type



Power supply inlet

- (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 panel for cassette, 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 screws (M4 × L6) (×2).

Screws (M4 × L6) position



- (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 panel for cassette. 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. See "1-10. ELECTRICAL WIRING".

## ■ HOW TO PROCESS TUBING

Must ensure mechanical connections be accessible for maintenance purposes.

### ● Connecting the Refrigerant Tubing

#### NOTE

When connecting flare at indoor side, make sure that the flare connection is used only once. If torqued up and released, the flare must be remade. Once the flare connection was torqued up correctly and leak test was made, thoroughly clean and dry the surface to remove oil, dirt and grease by following instructions of silicone sealant. Apply neutral cure & ammonia-free silicone sealant that is non-corrosive to copper & brass to the external of the flared connection to prevent the ingress of moisture on both the gas & liquid sides. (Moisture may cause freezing and premature failure of the connection.)

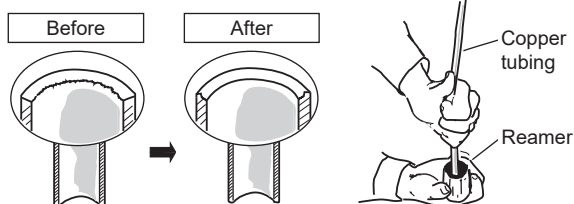
#### Use of the Flaring Method

Many of conventional split system air conditioners employ the flaring method to connect refrigerant tubes that 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. 30 – 50 cm longer than the tubing length you estimate.
- (2) Remove burrs at each end of the copper tubing with a tube reamer or a similar tool. This process is important and should be done carefully to make a good flare. Be sure to keep any contaminants (moisture, dirt, metal filings, etc.) from entering the tubing.

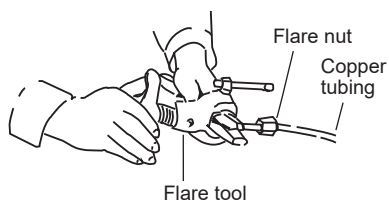
#### Deburring



#### NOTE

When reaming, hold the tube end downward and be sure that no copper scraps fall into the tube.

- (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.



#### NOTE

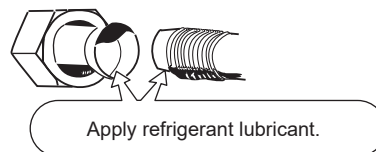
When flared joints are reused, the flare part shall be re-fabricated.

A good flare should have the following characteristics:

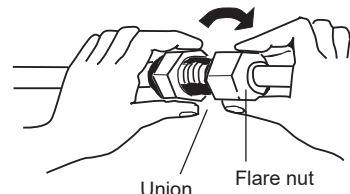
- inside surface is glossy and smooth
- edge is smooth
- tapered sides are of uniform length

#### 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 (ether oil) to the inside of the flare nut before making piping connections. This is effective for reducing gas leaks.



- (3) For proper connection, align the union tube and flare tube straight with each other, then screw on the flare nut lightly at first to obtain a smooth match.



- 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.

## ● 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

Unit : mm

Indoor unit type	S-3650PU3E	S-6071PU3E
Gas tube	ø12.7	ø15.88
Liquid tube	ø6.35	ø9.52

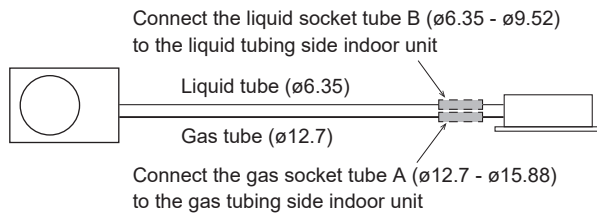
Different-diameter-tube joint for the indoor unit tubing connection part is supplied with S-6071PU3E.

The size of parenthesis indicates the connection tube diameter when using the different-diameter-tube joint.

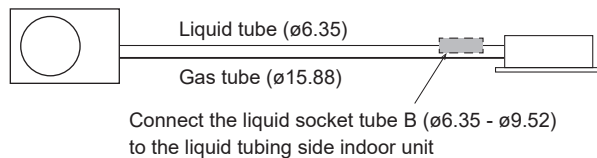
### How to use different-diameter-tube joint (supplied)

1) When using with single connection

#### • Outdoor PZ3 series (Type 60)

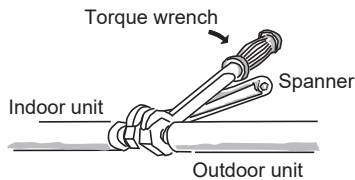


#### • Outdoor PZ3 series (Type 71)



(2) To fasten the flare nuts, apply specified torque.

- When removing the flare nuts from the tubing connections, or when tightening them after connecting the tubing, be sure to use two spanners. When tightening the flare nuts, use a torque wrench. 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, R32 (type 2). The refrigerant tubing that is used must be of the correct wall thickness as shown in the table below.

Tube diameter	Tightening torque (approximate)	Tube thickness
ø6.35 (1/4")	14 – 18 N · m {140 – 180 kgf · cm}	0.8 mm
ø9.52 (3/8")	34 – 42 N · m {340 – 420 kgf · cm}	0.8 mm
ø12.7 (1/2")	49 – 55 N · m {490 – 550 kgf · cm}	0.8 mm
ø15.88 (5/8")	68 – 82 N · m {680 – 820 kgf · cm}	1.0 mm

Because the pressure is approximately 1.6 times higher than conventional refrigerant R22 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.

- 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 200 mm.

### ● Insulating the Refrigerant Tubing

#### Tubing Insulation

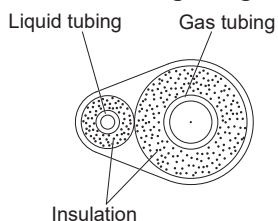
Must ensure that pipe-work shall be protected from physical damage.

- 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 120°C or above. For other tubing, it must be heat resistant to 80°C or above.

Insulation material thickness must be 10 mm or greater.

If the conditions inside the ceiling exceed DB 30°C and RH 70%, increase the thickness of the gas tubing insulation material by 1 step.

#### Two tubes arranged together



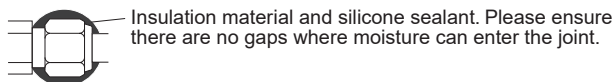
### ! CAUTION

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.

#### Additional Precautions For R32 Models.

! Ensure to do the re-flaring of pipes before connecting to units to avoid leaking.

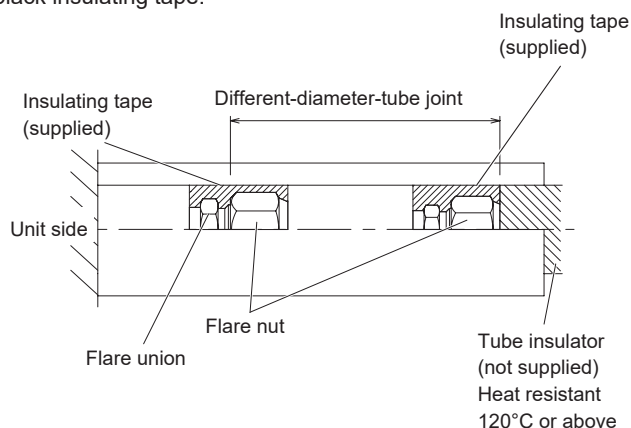
To prevent the ingress of moisture into the joint which could have the potential to freeze and then cause leakage, the joint must be sealed with suitable silicone and insulation material. The joint should be sealed on both liquid and gas side.



Silicone Sealant must be neutral cure and ammonia free. Use of silicon containing ammonia can lead to stress corrosion on the joint and cause leakage.

### Taping the flare nuts

Wind the white insulating 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 insulating tape.



### 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.

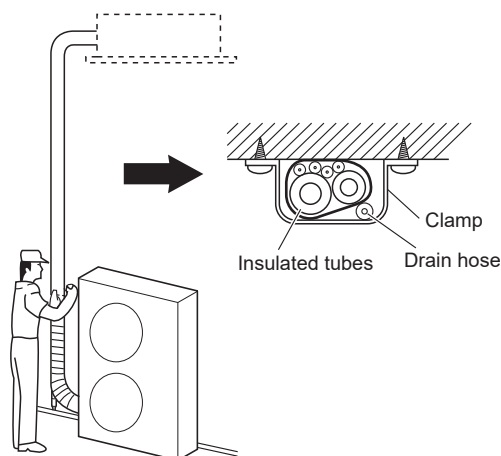
### ! CAUTION

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.

### ● Taping the Tubes

- 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.
- 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.
- Clamp the tubing bundle to the wall, using 1 clamp approx. each meter.

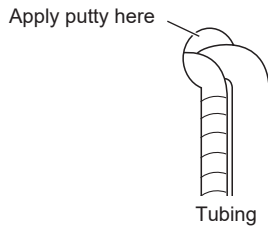


### NOTE

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.

## ● 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.



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

### NOTE

See "Section 2. TEST RUN".

## ● Accessories Supplied with Unit

### (4-Way Cassette)

Part Name	Figure	Q'ty	Remarks
Full-scale installation diagram		1	Printed on container box
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

Part Name	Figure	Q'ty	Remarks
Packing		1	
Drain insulator		1	
Clamper		4	For electrical wiring
Operating Instructions		1	
Installation Instructions		1	

As for S-6071PU3E, the following accessories are additionally provided.

Part Name	Figure	Q'ty	Remarks
Different-diameter-tube joint		1	Gas socket tube A : $\varnothing 15.88 \rightarrow \varnothing 12.7$
		1	Liquid socket tube B : $\varnothing 9.52 \rightarrow \varnothing 6.35$
Insulating tape		2	For gas and liquid tube flare nuts

- Use M10 for suspension bolts.
- Field supply for suspension bolts and nuts.

## ● 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 8 mm.
3. Use insulated copper wire for field wiring. Wire size varies with the total length of wiring. See the section "1-10. ELECTRICAL WIRING" for details.



### CAUTION

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

## Additional Materials Required for Installation

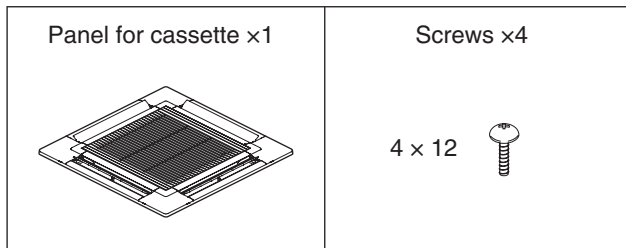
1. Refrigeration (armored) tape
2. Insulated staples or clamps for connecting wire (See your local codes.)
3. Putty
4. Refrigeration tubing lubricant
5. Clamps or saddles to secure refrigerant tubing
6. Scale for weighing

■ HOW TO INSTALL THE PANEL FOR CASSETTE

4-Way Cassette Type (Type U3)

CZ-KPU3, CZ-KPU3W

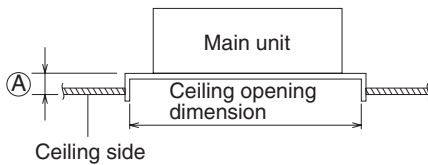
Accessories



● Preparation for Panel for Cassette Installation

(1) Checking the unit position

- 1) Check that the ceiling hole is within this range:  
860 mm x 860 mm to 910 mm x 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.

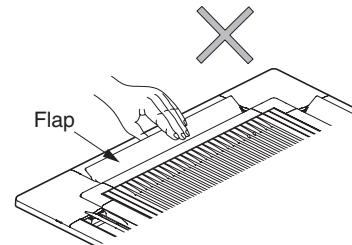


Ⓐ : Be sure to necessarily make a space within the range of 12 mm ~ 17 mm.

If not within this range, malfunction or other trouble may occur.

 CAUTION

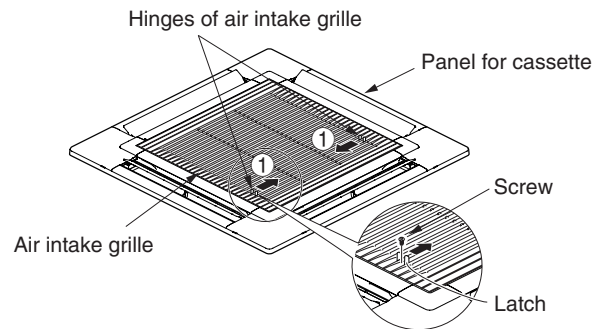
- Never place the panel face-down. Either hang it vertically or place it on top of a projecting object. Placing it face-down will damage the surface.
- Do not touch the flap or apply force to it. (This may cause flap malfunction.)



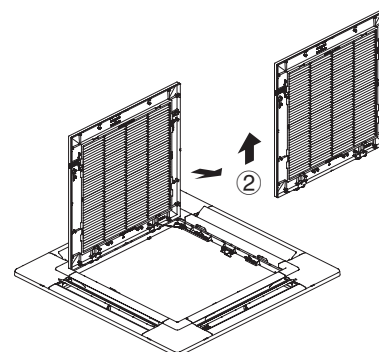
● How to Install the Panel for Cassette

(1) Removing the air intake grille

- 1) Remove the 2 screws on the latch of the air intake grille. (Reattach the air intake grille after installation of the panel for cassette.)
- 2) Slide the air intake grille catches in the direction shown by the arrows ① to open the grille.

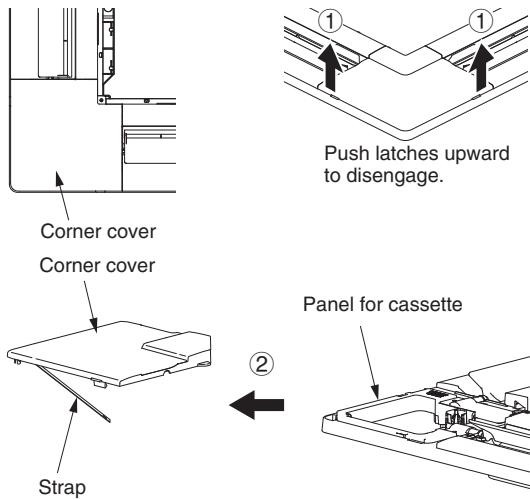


- 3) With the air intake grille opened, remove the grille hinge from the panel for cassette by sliding it in the direction shown by the arrow ②. (Reattach the air intake grille after installation of the panel for cassette.)



## (2) Removing the corner cover

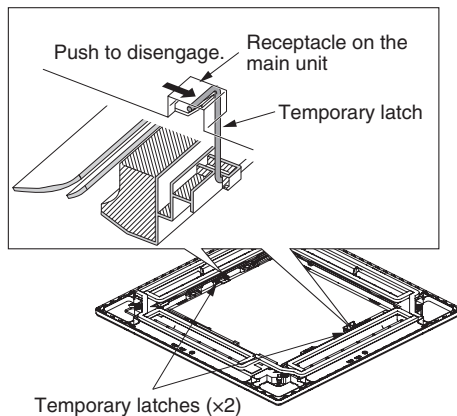
Push the latches on the corner cover in the direction of the arrow ① and remove them by sliding in the direction of the arrow ②.



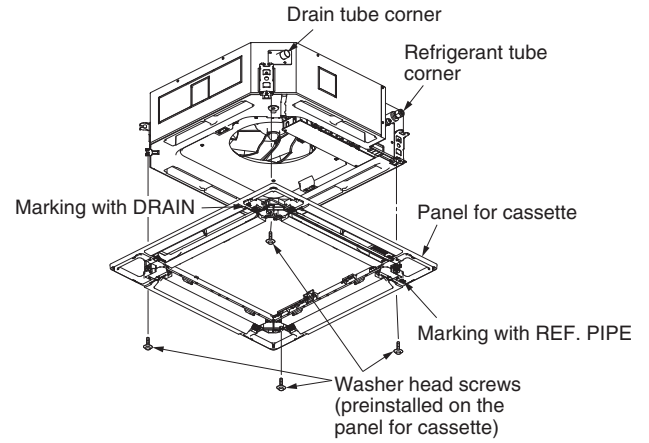
## (3) Installing the panel for cassette

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.)

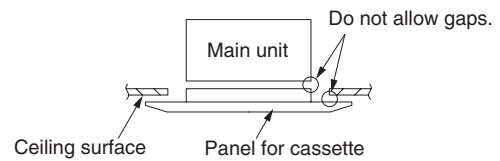
- 1) Hang the temporary latches on the inside of the panel for cassette to the receptacle on the unit to temporarily attach the panel for cassette in place.
  - The panel for cassette must be installed in the correct direction relative to the unit. Align the REF. PIPE and DRAIN marks on the panel for cassette corner with the correct positions on the unit.
  - When removing the panel for cassette, push the temporary latches outward while holding the panel for cassette.



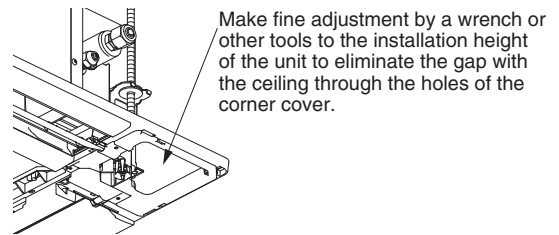
- 2) Align the panel installation holes and the unit screw holes.
- 3) Tighten the provided washer head screws at the 4 panel installation locations so that the panel is attached tightly to the unit.



- 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 panel for cassette, or between the panel for cassette and the ceiling surface.

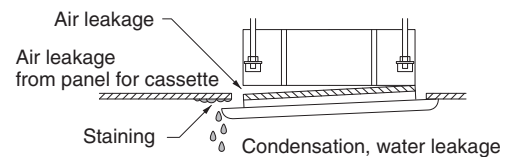


- If there is a gap between the panel and the ceiling, leave the panel for cassette attached and make fine adjustments to the installation height of the unit to eliminate the gap with the ceiling.

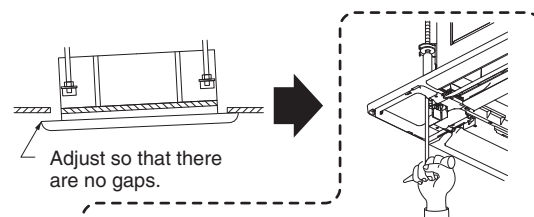


## CAUTION

- 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 panel for cassette even after the screws are tightened, adjust the height of the unit again.

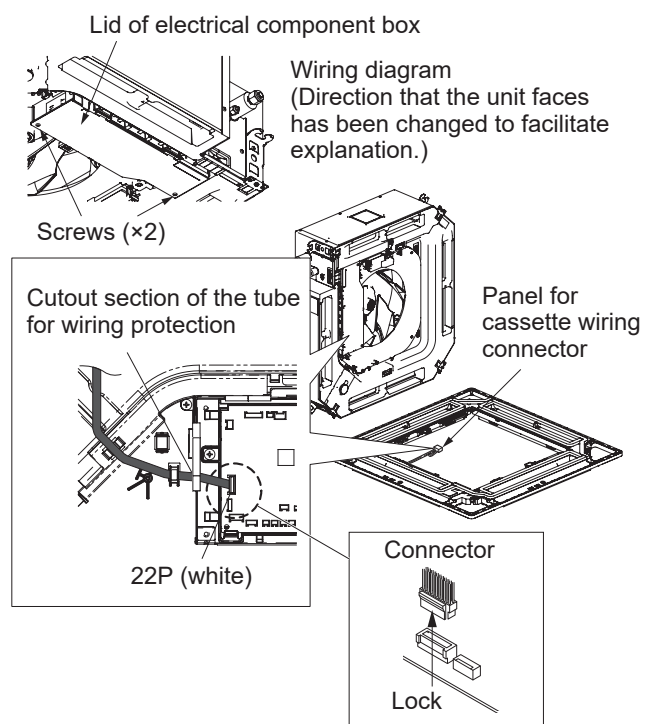


If there is no affect to the horizontal of the unit and drain tube, adjustment to the installation height of the unit can be made through the hole of the panel for cassette corner.



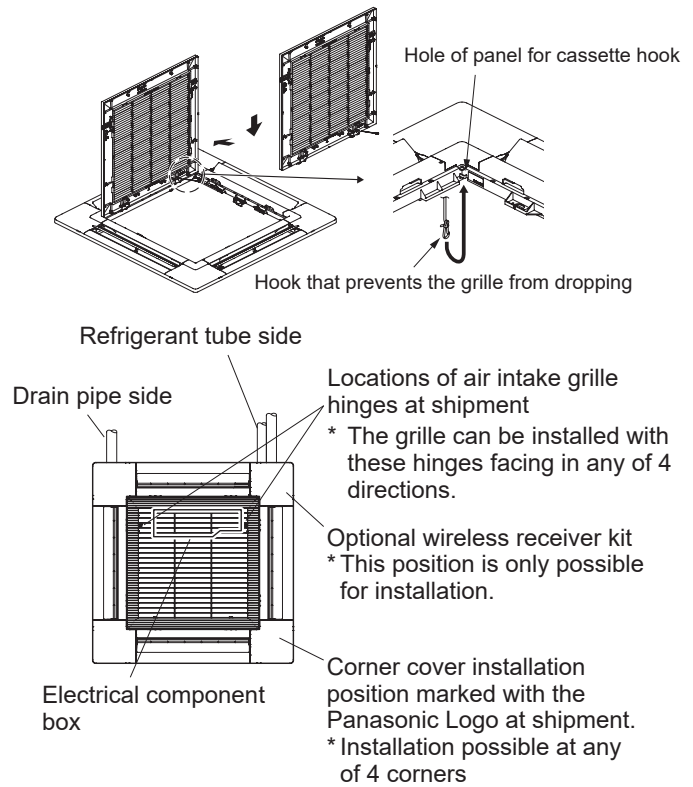
(4) Wiring the Panel for Cassette

- 1) Open the cover of the electrical component box for the indoor unit control PCB.
  - 2) Connect the 22P connector (white) from the panel for cassette to the connector on the indoor unit 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 clasper attached to the electrical component box.
- **Insert connector lock facing PCB edge until it is locked in place. (If not connected completely, the Auto Flap will not operate and “P09” is displayed on the remote controller. When the connector plugged in the wrong direction, parts on the PCB may be damaged.)**
  - **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 panel for cassette.**



**B. Attaching the air intake grille**

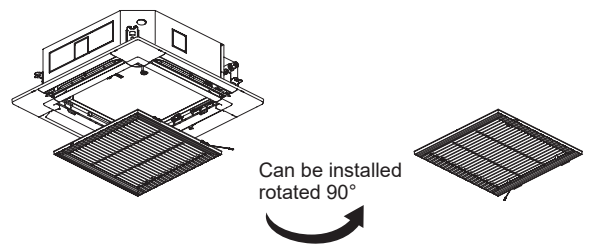
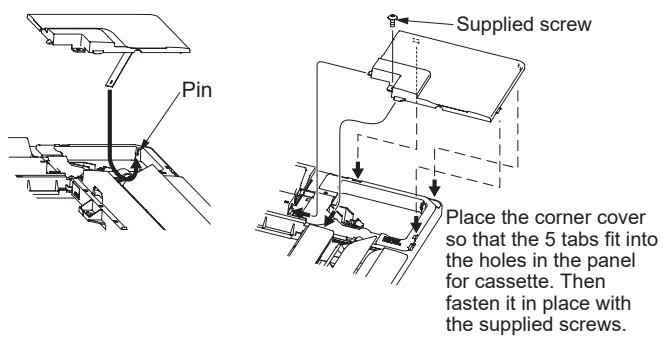
- To install the air intake grille, follow the steps for “Removing the grille” in the reverse order. By rotating the air intake grille, it is possible to attach the grille onto the panel for cassette from any of 4 directions. Coordinate the directions of the air intake grilles when installing multiple 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 strap that prevents the air intake grille from dropping off to the panel for cassette unit as shown in the figure below.
- With this panel for cassette, 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.



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

**A. Attaching the corner cover**

- 1) Check that the safety strap from the corner cover is fastened to the panel for cassette pin, as shown in the figure.
- 2) Use the supplied screws to attach the corner cover to the panel for cassette.



## ● Others

### (1) Checking After Installation

- 1) Check that there are no gaps between the unit and the panel for cassette, or between the panel for cassette 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 Settings\*1**

Setting No.	Remote controller setting data Item code 5d	Contents & optional parts name
(1)	0001	Air-flow blocking kit (for 3-way air flow)*2
		Air-flow blocking kit (when a duct is connected.)
		High-ceiling setting 1*2
(3)	0003	High-ceiling setting 2*2
(6)	0006	Air-flow blocking kit (for 2-way air flow)*2

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

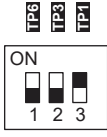
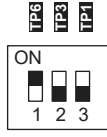
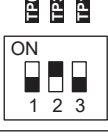
\*2 Ceiling height (m)

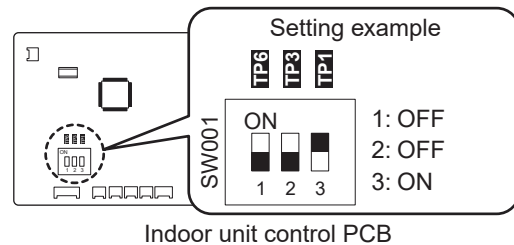
Indoor unit type	S-3650PU3E	S-6071PU3E
Standard (factory setting)	2.7	3.0
High-ceiling setting 1	3.2	3.3
High-ceiling setting 2	3.5	3.6
Air-flow blocking kit (for 3-way air flow)	3.8	3.8
Air-flow blocking kit (for 2-way air flow)	4.2	4.2

- 1) When setting on the indoor unit control PCB  
<Procedure>

**Stop the system before performing these steps.**




- ① Open the electrical component box cover, then check the indoor unit control PCB.
- ② Change the DIP switch (SW001) on the indoor unit control PCB in accordance with the setting number which was confirmed in "Table for DC Fan Motor Tap Settings".

Setting No.	DIP switch	Setting No.	DIP switch
(1)		(6)	
(3)			








### <Procedure of CZ-RTC5B>

**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.

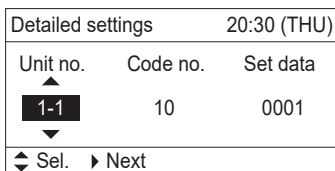
Maintenance func 20:30 (THU)	
1. Outdoor unit error data	
2. Service contact	
3. RC setting mode	
4. Test run	
◀ Sel. ▶ Page [↵] Confirm	

- 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.

Maintenance func 20:30 (THU)	
5. Sensor info.	
6. Servicing check	
7. Simple settings	
8. Detailed settings	
◀ Sel. ▶ Page [↵] Confirm	

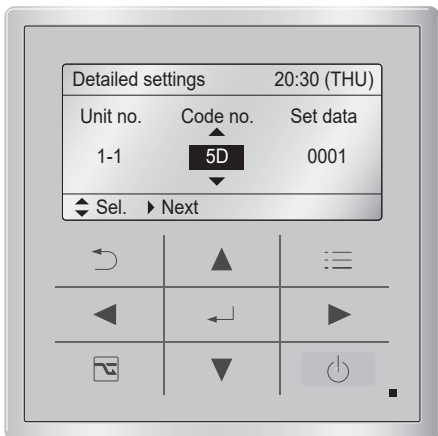
The "Detailed settings" screen appears on the LCD display.

- ③ Select the "Unit no." by pressing the ▼ or ▲ button for changes.



- ④ Select the "Code no." by pressing the ◀ or ▶ button.

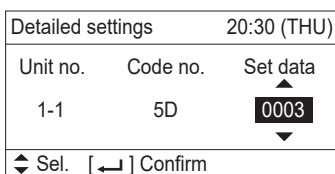
Change the "Code no." to "5D" by pressing the ▼ or ▲ button (or keeping it pressed).



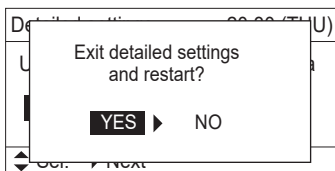
- ⑤ Select the "Set data" by pressing the ◀ or ▶ button.

Select one of the "Set data" in "Table for DC Fan Motor Tap Settings" 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.

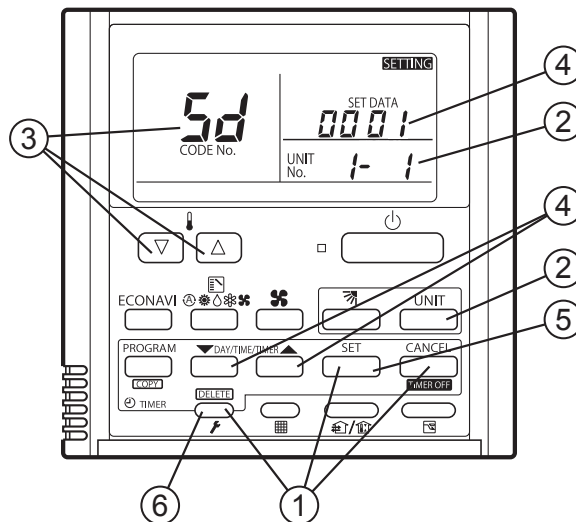


If you wish to change the selected indoor unit, follow the step ②.

<Procedure of CZ-RTC4>

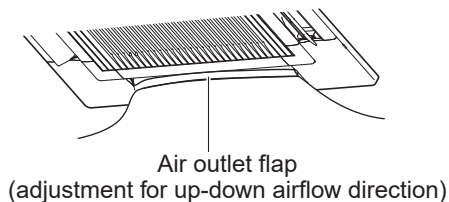
Stop the system before performing these steps.

- 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. 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, see "Table for DC FAN Motor Tap Settings" on page 1-11-1-14.
- 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.



(4) Setting the Flap Separately

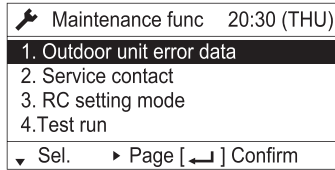
- 1) The 4-air outlet flap can be adjusted separately during operation. When not adjusted separately, all flaps operate in the same manner.



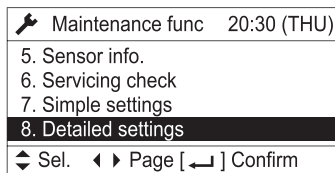
<Procedure of CZ-RTC5B>

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.

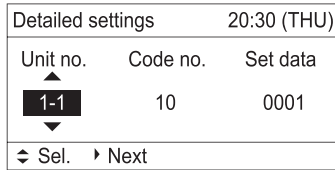


- ② Press the or button to see each menu. If you wish to see the next screen instantly, press the or button. Select "8. Detailed settings" on the LCD display and press the button.

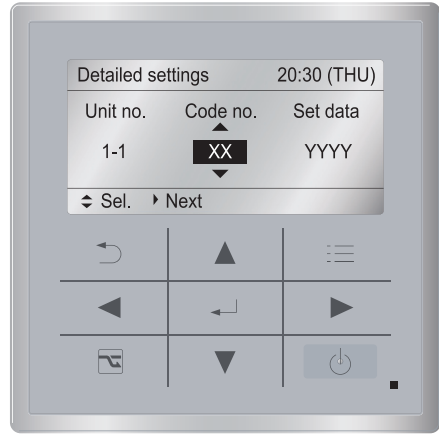
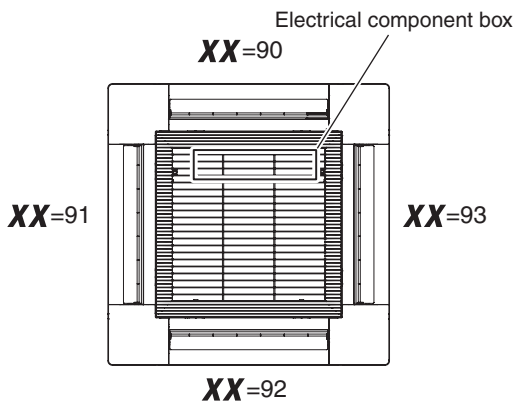


The "Detailed settings" screen appears on the LCD display.

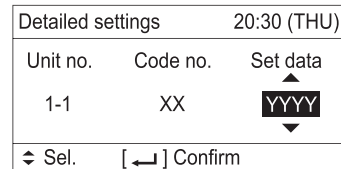
- ③ Select the "Unit no." by pressing the or button for changes.



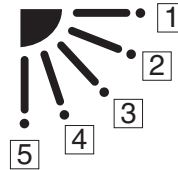
- ④ Select the "Code no." by pressing the or button. Change the "Code no." to "XX" by pressing the or button (or keeping it pressed).



- 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



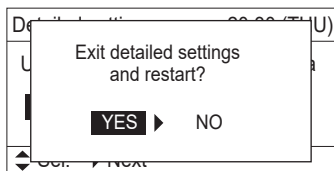
\* Setting data "YYYY"

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

**NOTE**

The flap swings during the operation under "Setting the Flap Separately". At this time, the unselected flaps are moved to the position 1.

- 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.

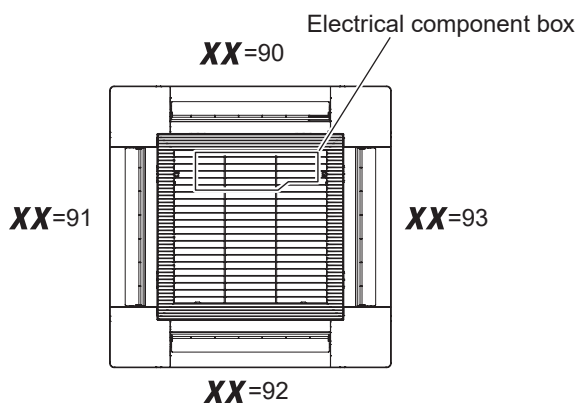


If you wish to change the selected indoor unit, follow the step ②.

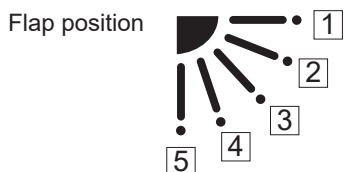
**<Procedure of CZ-RTC4>**

**Stop the system before performing these steps.**

- ① Press and hold the , and buttons simultaneously for 4 seconds or longer.
- ② If group control is in effect, press the 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 buttons to select the desired setting data.



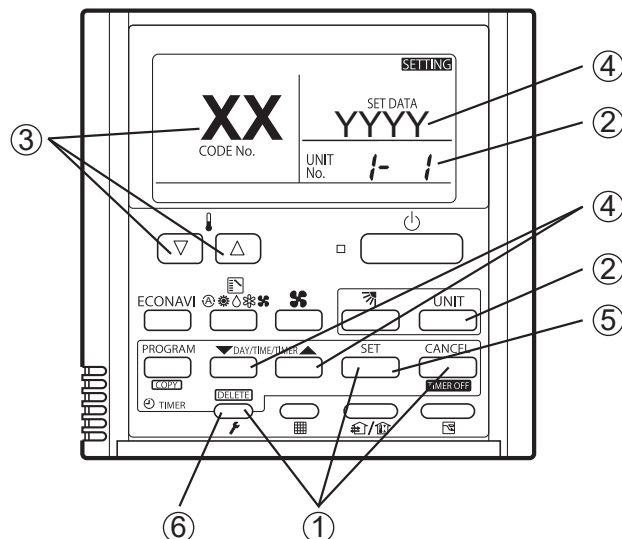
\* Setting data "YYYY"

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

**NOTE**

The flap swings during the operation under "Setting the Flap Separately".  
At this time, the unselected flaps are moved to the position ①.

- ⑤ Press the 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.



**■ HOW TO INSTALL WIRELESS REMOTE CONTROLLER**

**NOTE**

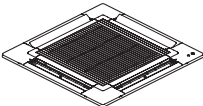



See "Section 8. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER".

## ■ Panel for Cassette (ECONAVI type)

CZ-KPU3A, CZ-KPU3AW

Applicable indoor unit : 4-Way Cassette

### Accessories Supplied

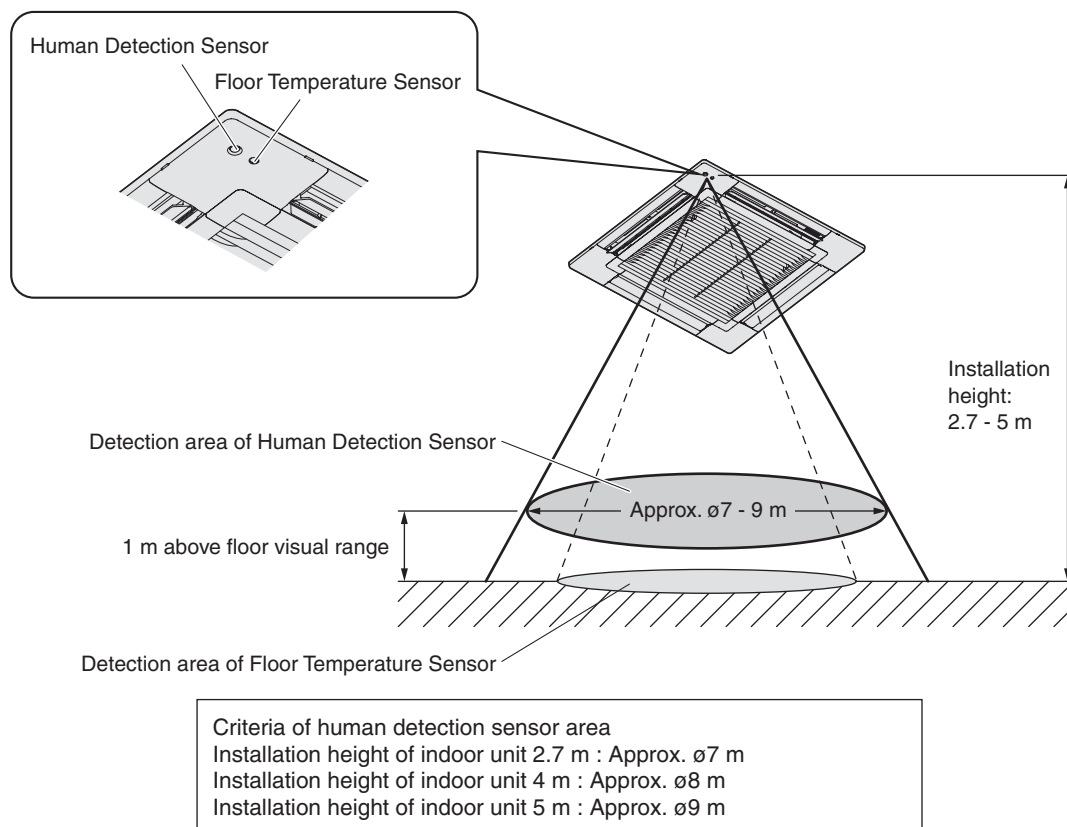
Part Name	Figure	Q'ty	Remarks
ECONAVI panel		1	ECONAVI type
Screw		4	4 × 12
Operating Instructions		1	
Installation Instructions		1	

Since the accessories need for installation work, do not dispose of them until the unit of work is complete.

## ■ CAUTION ON INSTALLATION

### ● Criteria for Human Detection Area

- A place where the blind angle of the Human Detection Sensor cannot detect human. Install the panel for cassette (ECONAVI type) so that human motion can be detected.
- If there is a heat source or cooling unit in the detection area, the sensor cannot occasionally detect properly.
- The Floor Temperature Sensor detects within the sensor area of Human Detection Sensor.

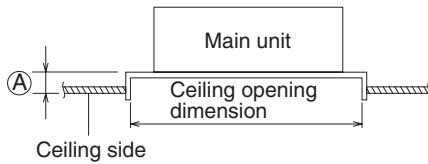


Do not install at the following locations. (Cause of trouble and malfunction)

- Humid, oily, frequent vibration
- Direct sunlight and near by heat source
- Frost

● **Preparation for Panel for Cassette Installation**

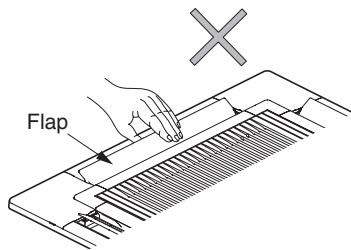
- (1) Checking the unit position
  - 1) Check that the ceiling hole is within this range:  
860 × 860 mm to 910 × 910 mm
  - 2) Confirm that the position of the indoor unit and the ceiling as shown in the diagram. If the positions of the ceiling surface and unit do not match, air leakage, water leakage, flap operation failure, or other problems may occur.



Ⓐ : Be sure to necessarily make a space within the range of 12 ~ 17 mm.  
If not within this range, malfunction or other trouble may occur.

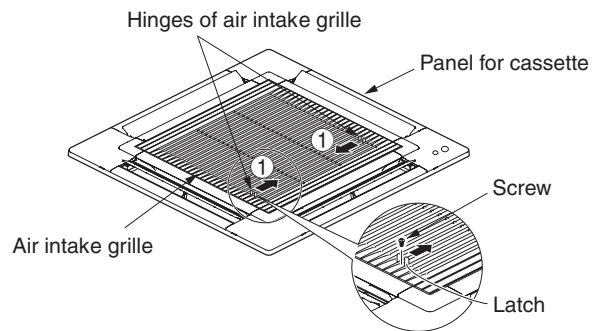
 **CAUTION**

- 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.)

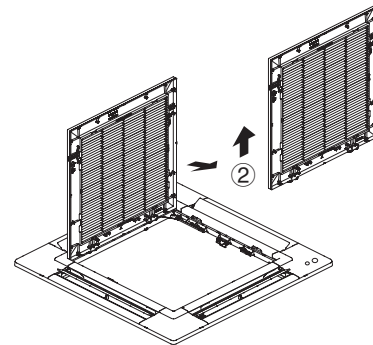


● **How to Install the Panel for Cassette**

- (1) Removing the air intake grille
  - 1) Remove the 2 screws on the latch of the air intake grille. (Reattach the air intake grille after installation of the panel for cassette.)
  - 2) Slide the air intake grille catches in the direction shown by the arrows ① to open the grille.

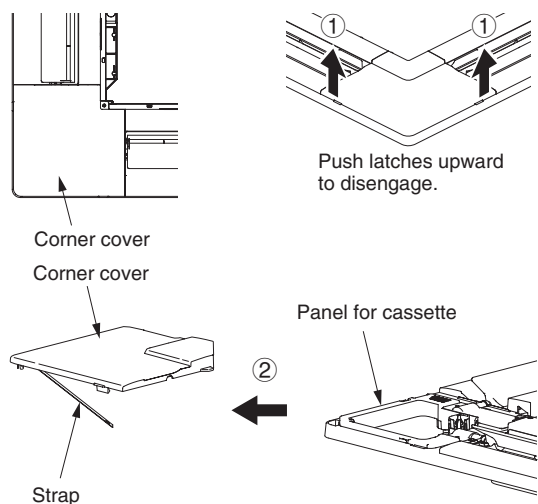


- 3) With the air intake grille opened, remove the grille hinge from the panel for cassette by sliding it in the direction shown by the arrow ②. (Reattach the air intake grille after installation of the panel for cassette.)



- (2) Removing the corner cover
 

Push the latches on the corner cover in the direction of the arrow ① and remove them by sliding in the direction of the arrow ②.

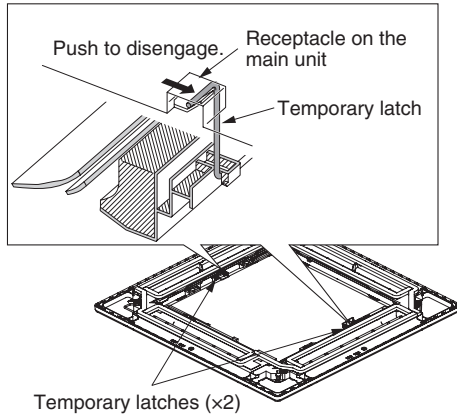


### (3) Installing the panel for cassette

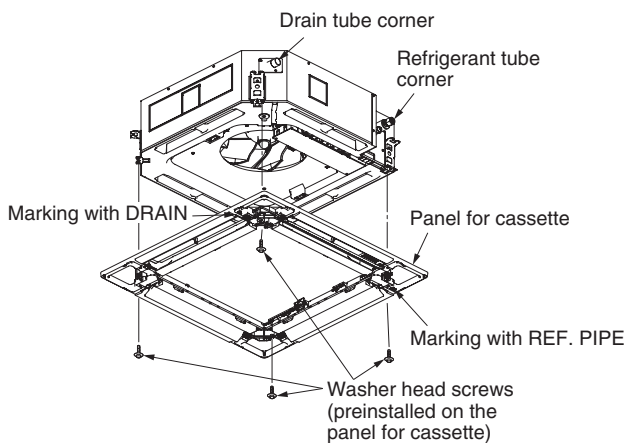
The power must be turned ON in order to change the flap angle. (Do not attempt to move the flap by hand. Doing so may damage the flap.)

1) Hang the temporary latches on the inside of the panel for cassette to the receptacle on the unit to temporarily attach the panel for cassette in place.

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

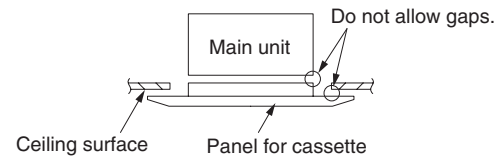


- 2) Align the panel installation holes and the unit screw holes.
- 3) Tighten the provided washer head screws at the 4 panel installation locations so that the panel is attached tightly to the unit.

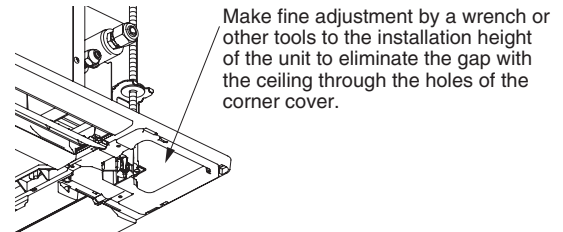


4) Check that the panel is attached tightly to the ceiling.

- At this time, make sure that there are no gaps between the unit and the panel for cassette, or between the panel for cassette and the ceiling surface.

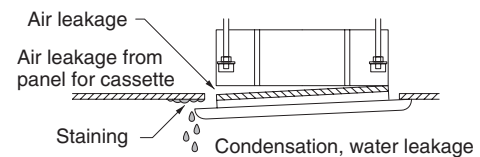


- If there is a gap between the panel and the ceiling, leave the panel for cassette attached and make fine adjustments to the installation height of the unit to eliminate the gap with the ceiling.

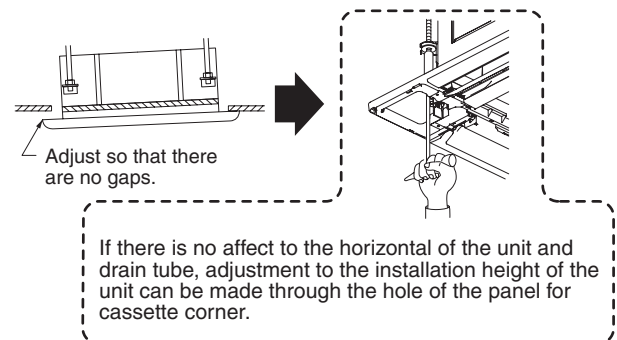


### CAUTION

- 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 panel for cassette even after the screws are tightened, adjust the height of the unit again.



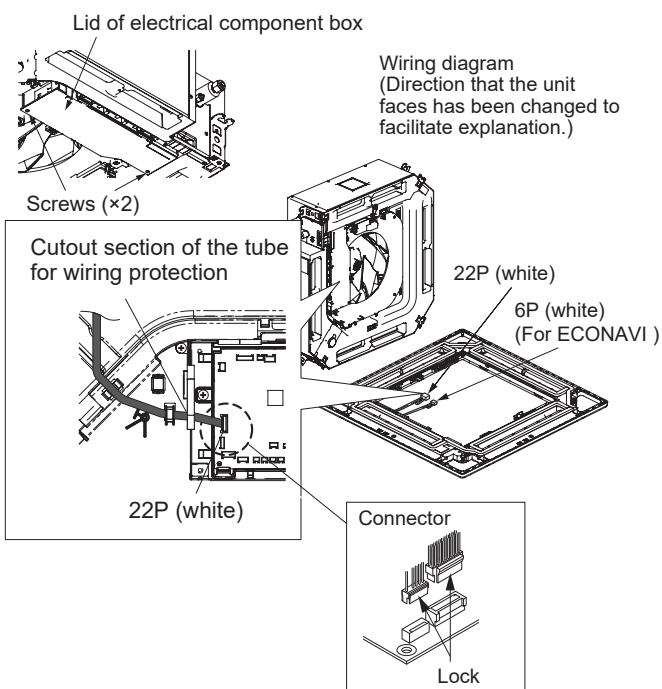


(4) Wiring the Panel for Cassette

- 1) Open the cover of the electrical component box for the indoor unit control PCB.
- 2) Connect the 22P connector (white) and 6P connector (white) from the panel for cassette to the connector on the indoor unit control PCB in the unit electrical component box.

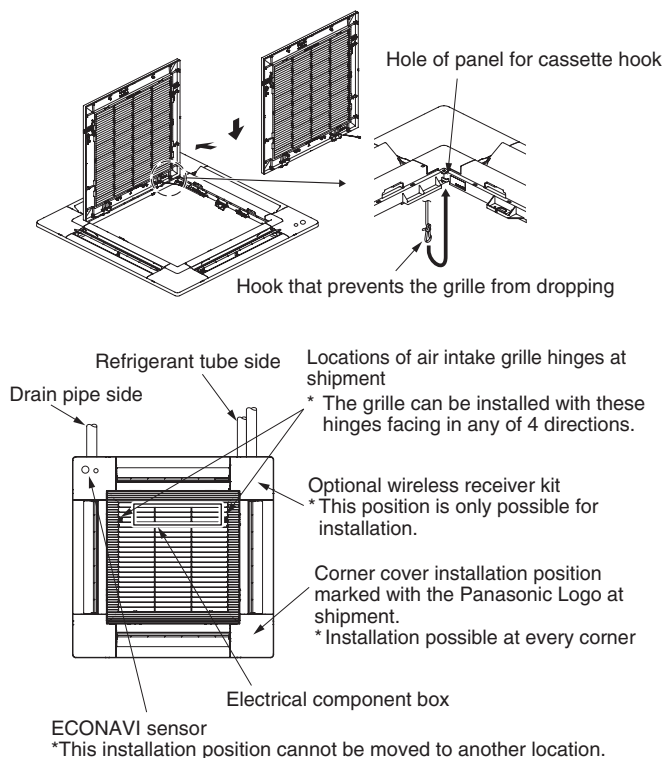
In this case, expose the cutout section of the tube for the wiring protection to the outside from the electrical component box and fix it with the clumper attached to the electrical component box.

- **Insert connector lock facing PCB edge until it is locked in place. (If not connected completely, the Auto Flap will not operate and “P09” is displayed on the remote controller. When the connector plugged in the wrong direction, parts on the PCB may be damaged.)**
- **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 panel for cassette.**



**B. Attaching the air intake grille**

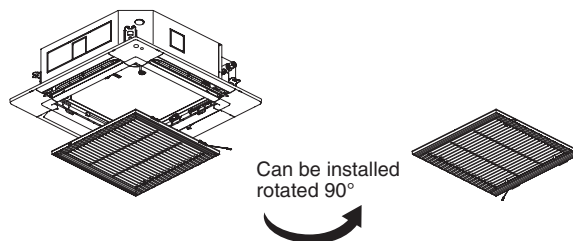
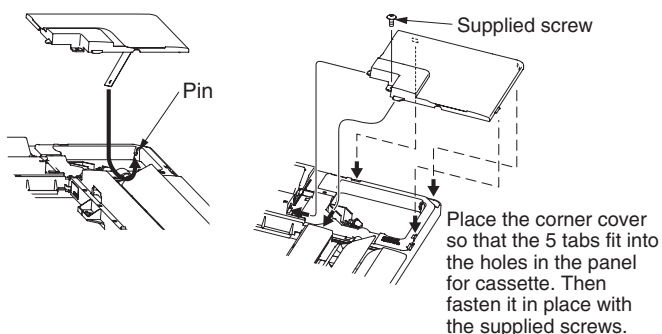
- To install the air intake grille, follow the steps for “Removing the grille” in the reverse order. By rotating the air intake grille, it is possible to attach the grille onto the panel for cassette from any of 4 directions. Coordinate the directions of the air intake grilles when installing multiple 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 strap that prevents the air intake grille from dropping off to the panel for cassette unit as shown in the figure below.
- With this panel for cassette, 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.



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

**A. Attaching the corner cover**

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



## ● Others

### (1) Checking After Installation

- 1) Check that there are no gaps between the unit and the panel for cassette, or between the panel for cassette 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 Settings\*1**

Setting No.	Remote controller setting data Item code 5d	Contents & optional parts name
(1)	0001	Air-flow blocking kit (for 3-way air flow)*2
		Air-flow blocking kit (when a duct is connected.)
		High-ceiling setting 1*2
(3)	0003	High-ceiling setting 2*2
(6)	0006	Air-flow blocking kit (for 2-way air flow)*2

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

\*2 Ceiling height (m)

Indoor unit type	S-3650PU3E	S-6071PU3E
Standard (factory setting)	2.7	3.0
High-ceiling setting 1	3.2	3.3
High-ceiling setting 2	3.5	3.6
Air-flow blocking kit (for 3-way air flow)	3.8	3.8
Air-flow blocking kit (for 2-way air flow)	4.2	4.2

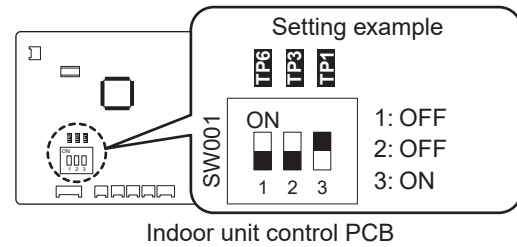
- 1) When setting on the P.C. Board

<Procedure>

**Stop the system before performing these steps.**

- ① Open the electrical component box cover, then check the indoor unit control PCB.
- ② Change the DIP switch on the indoor unit control PCB in accordance with the setting number which was confirmed in "Table for DC Fan Motor Tap Settings".

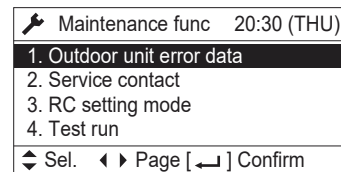
Setting No.	DIP switch	Setting No.	DIP switch
(1)		(6)	
(3)			



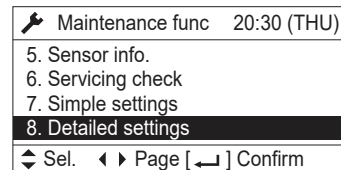
### <Procedure of CZ-RTC5B>

**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.

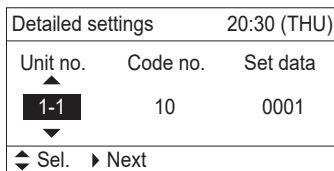


- ② Press the or button to see each menu. If you wish to see the next screen instantly, press the or button. Select "8. Detailed settings" on the LCD display and press the button.



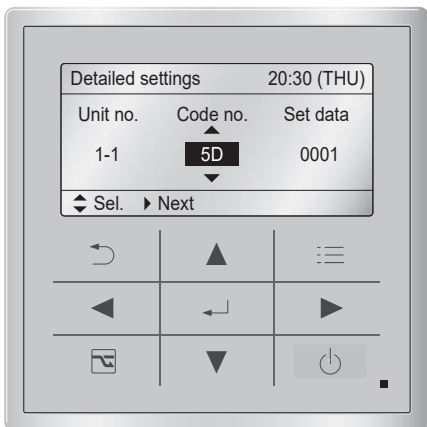
The "Detailed settings" screen appears on the LCD display.

- ③ Select the "Unit no." by pressing the or button for changes.



- ④ Select the "Code no." by pressing the or button.

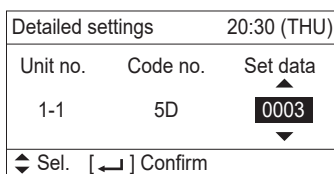
Change the "Code no." to "5D" by pressing the or button (or keeping it pressed).



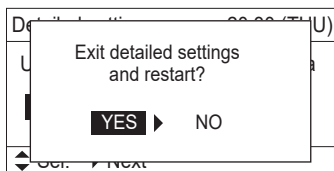
- ⑤ Select the "Set data" by pressing the or button.

Select one of the "Set data" in "Table for DC Fan Motor Tap Settings" 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.

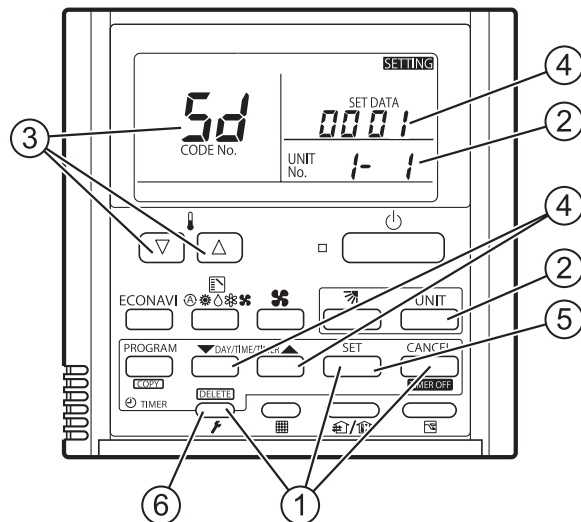


If you wish to change the selected indoor unit, follow the step ②.

**<Procedure of CZ-RTC4>**

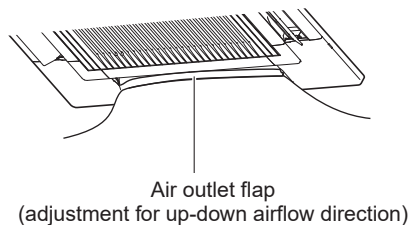
**Stop the system before performing these steps.**

- ① Press and hold the , and buttons simultaneously for 4 seconds or longer.
- ② If group control is in effect, press the 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 / buttons to select the desired setting data.  
\*For item codes and setting data, see the "Table for DC Fan Motor Tap Settings" on page 1-11-1-22.
- ⑤ Press the 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.



**(4) Setting the Flap Separately**

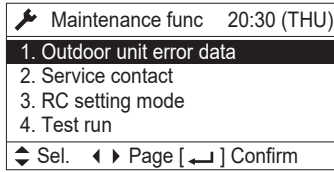
- 1) The 4-air outlet flap can be adjusted separately during operation. When not adjusted separately, all flaps operate in the same manner.



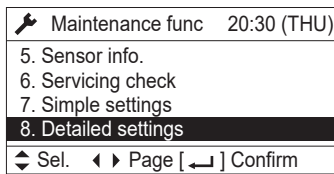
<Procedure of CZ-RTC5B>

Stop the system before performing these steps.

- Keep pressing the , and buttons simultaneously for 4 or more seconds.  
The "Maintenance func" screen appears on the LCD display.

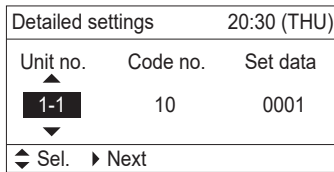


- Press the or button to see each menu. If you wish to see the next screen instantly, press the or button. Select "8. Detailed settings" on the LCD display and press the button.

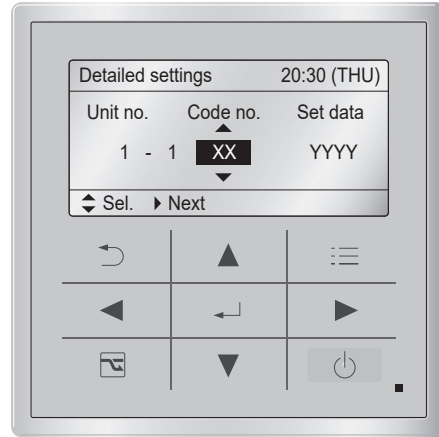
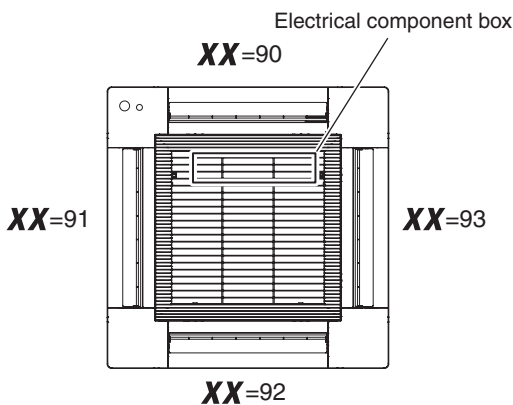


The "Detailed settings" screen appears on the LCD display.

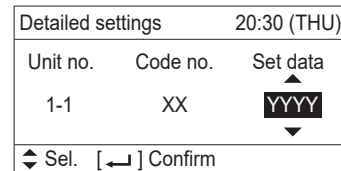
- Select the "Unit no." by pressing the or button for changes.



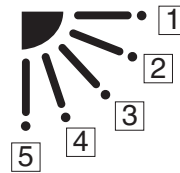
- Select the "Code no." by pressing the or button. Change the "Code no." to "XX" by pressing the or button (or keeping it pressed).



- 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



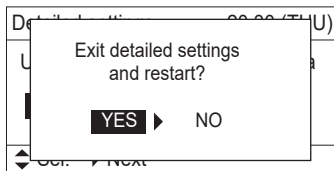
\* Setting data "YYYY"

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

**NOTE**

The flap swings during the operation under "Setting the Flap Separately".  
At this time, the unselected flaps are moved to the position 1.

- Press the button. The "Exit detailed settings and restart?" (Detailed setting-end) screen appears on the LCD display. Select "YES" and press the button.



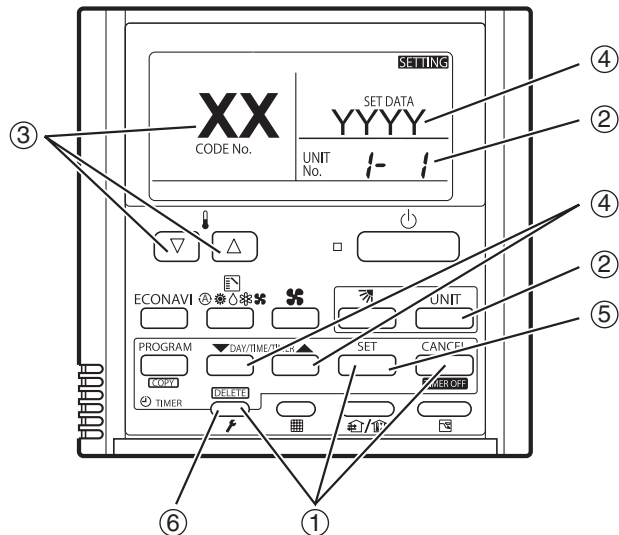
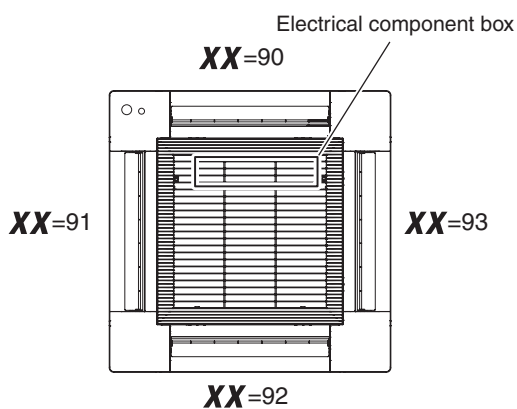
If you wish to change the selected indoor unit, follow the step (2).

- ⑤ Press the 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.

**<Procedure of CZ-RTC4>**

**Stop the system before performing these steps.**

- ① Press and hold the , and buttons simultaneously for 4 seconds or longer.
- ② If group control is in effect, press the 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 buttons to select the desired setting data.



\* Setting data "YYYY"

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

**NOTE**




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

At this time, the unselected flaps are moved to the position 1.

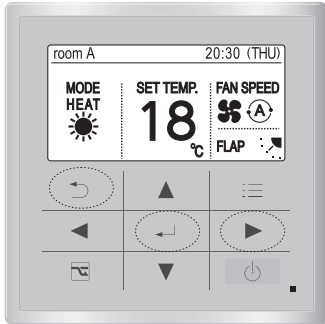
## ■ ECONAVI SYSTEM SETTING

Change the settings of main and sub indoor units to correspond to the ECONAVI system function.  
For the benefit of using the ECONAVI function, the main indoor unit should be provided with the ECONAVI function.



### 1. Press three buttons.

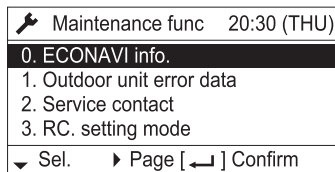
Keep pressing the ,  and  buttons simultaneously for more than 4 seconds.

The "Maintenance func" menu appears on the screen.



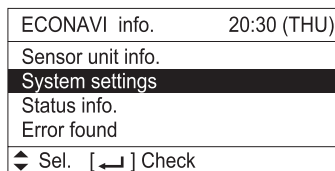
### 2. Select "0. ECONAVI info." from the menu command.

By pressing the  /  buttons, select "0. ECONAVI info." and press the  button.



### 3. Select "System settings" from the menu command.

By pressing the  /  buttons, select "System settings" and press the  button.



## NOTE

- After operating Step 2, the following messages may occasionally appear on the screen.

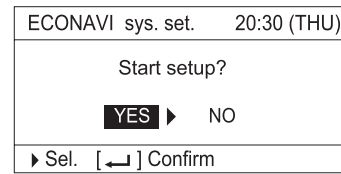
Display message	Contents
Disabled in default mode.	After a while, select "0. ECONAVI info." again. If no status changes even after 10 minutes, make auto address setting and then select "0. ECONAVI info.".

- After operating Step 3, the following messages may occasionally appear on the screen.

Display message	Contents
Setup is not required.	The main indoor unit has already been provided with the ECONAVI function. So, it works right out of the box.
Main indoor unit is not found.	The power of indoor unit may possibly shut down. Check the power supply of indoor unit.
Indoor unit with ECONAVI is not found.	Since all indoor units in the group control are not available for the ECONAVI function, the ECONAVI function cannot be used.

### 4. Start settings.


By pressing the  /  buttons, select "YES" and press the  button.



### 5. When finished settings, the system restarts automatically.

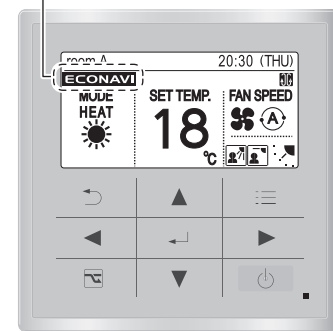
### 6. Check whether the ECONAVI function is set.

**ECONAVI** is displayed on the screen.

If the display is not operated, press the  button and set it in operating mode.

If operation is in fan mode, **ECONAVI** is not displayed. Set in any operating mode other than fan mode.




"**ECONAVI**" is displayed when setting the ECONAVI function.



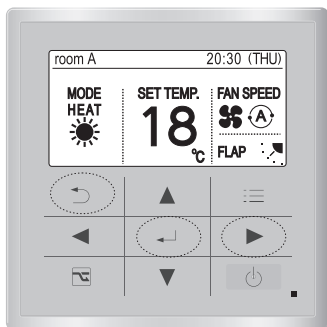
## ■ ECONAVI TEST OPERATION

Preparation: Refer to the manuals of the indoor unit and turn on the main power switch in advance.  
Human detection cannot be made for approx. 90 seconds when switched on the power because the human detection sensor is set in initial setup.

1. Press three buttons.



Keep pressing the ,  and  buttons simultaneously for more than 4 seconds.

The "Maintenance func" menu appears on the screen.







2. Select "0. ECONAVI info." from the menu command.

By pressing the  /  buttons, select "0. ECONAVI info." and press the  button.

 Maintenance func	20:30 (THU)
0. ECONAVI info.	
1. Outdoor unit error data	
2. Service contact	
3. RC. setting mode	
▼ Sel.	▶ Page [  ] Confirm

3. Select "Error found" from the menu command.

By pressing the  /  buttons, select "Error found" and press the  button.

ECONAVI info.	20:30 (THU)
Sensor unit info.	
System settings	
Status info.	
Error found	
▲ Sel.	[  ] Check

4. Check the sensor status shows "Normal".

(By pressing the  /  buttons, the status of each indoor unit can be scrolled on the screen.)

The sensor status of all indoor units are displayed.

- "Normal": The sensor on the panel for cassette (ECONAVI type) works normally.
- "Preparing": The sensor on the panel for cassette (ECONAVI type) is set in initial setup. Confirm that "Normal" appears within 90 seconds.
- "Unsupported": Indoor units not available for ECONAVI function.

Error found	20:30 (THU)
Unit no. Status	
1 - 1	Normal
1 - 2	Normal
Sensor 1	Not connected
▲ Scroll	

The test run procedure described above is over. If any display appears other than "Normal" or "Preparing" even though the ECONAVI panel is connected, follow the Step 5 below.

\* "1-1", "1-2" mean indoor unit No. If the indoor unit is without ECONAVI panel, "Not connected" appears.

\* "Sensor 1" means optional ECONAVI sensor (CZ-CENSC1). If not connected, "Not connected" appears besides "Sensor 1" on the screen.

5. If the sensor status shows other than "Normal", "Preparing",

"Error" or "Not connected" although the panel for cassette (ECONAVI type) is connected, the following symptom may have occurred. Specify the applicable indoor unit and check the sensor.



"Error": The sensor may possibly be damaged.

"Not connected": The wiring between the indoor unit and sensor may possibly be disconnected.


\* The specified indoor unit can be confirmed by the flap operation.

Confirmation method:

- ① Finish the maintenance function.

Press the  button to show the maintenance function display and then press the  button.

- ② Operate the flap.

By pressing the  button, select the applicable "Indoor Unit No." in the list of "2. FLAP" and then make flap setting. The indoor unit which responds to the flap setting becomes available.

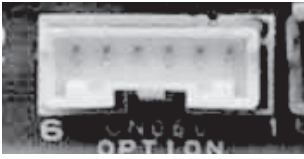
When the indoor unit is specified, turn off the main power switch and disconnect the connector of sensor wiring from the PCB. Then reconnect it. Turn on the main power switch and repeat the Steps 1 to 4 described above. Confirm the display shows "Error found". If the display shows "Error" or "Not connected" on the screen again, it is necessary to replace the panel for cassette (ECONAVI type) with a new one.

## EXTERNAL DEVICE INTERLOCK

Example of wiring:

This is an example of the combination systems which extract optional output signal by the service wire and relay (field supply). When actuating the external device interlock, use the thermostat signal.

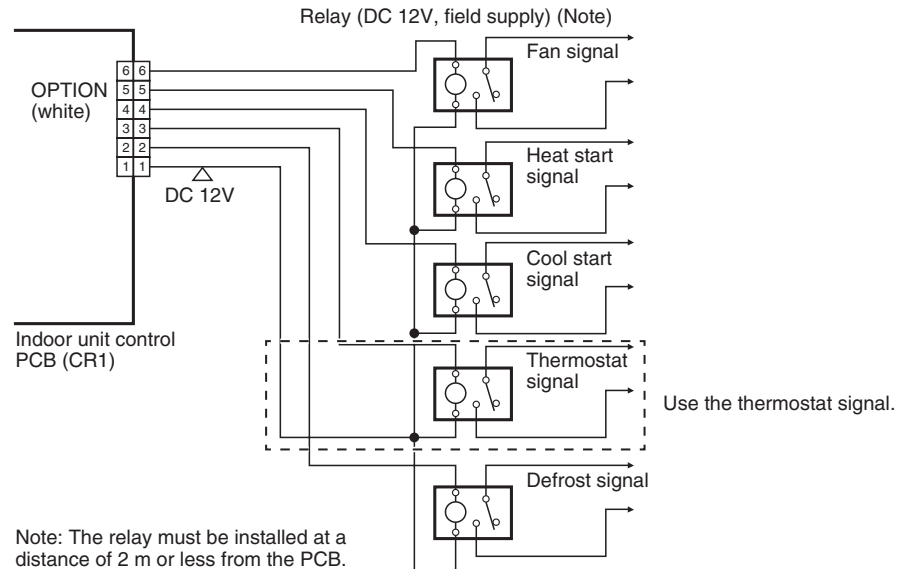
### OPTION Connector (CN060) Output external signals



PAW-OCT: Panasonic has developed an optional accessory (consisting of plug + wires) called PAW-OCT to enable an easy connection to this OPTION Connector (CN060).

With the combination of the T10 and the OPTION Connector (CN060) an external control of the I\_U is possible!

6P (WHITE): OUTPUTS EXTERNAL SIGNALS AS SHOWN IN THE FIGURE BELOW.



### NOTE

- The external output signal from the air conditioner is supplied for the purpose of controlling the external devices. If the air conditioner does not operate, take measures that the movement of external connecting devices can transfer to the safety zone in advance.
- The external output signal from the air conditioner is turned off when the blackout occurs. If any special considerations are needed in case of blackout, provide an external circuit.



## ■ CHECKLIST AFTER INSTALLATION WORK

Work List	No.	Content	Check <input checked="" type="checkbox"/>	Possibility of Failure & Checkpoint
Installation	1	Are the indoor units installed following the content on page 1-11-1-1-1 “●SELECTING THE INSTALLATION SITE”?	<input type="checkbox"/>	There is a possibility of light injure or loss of property.
Tubing & Wiring				
	4	Is the earth leakage circuit breaker (all-pole switching function provided) installed?	<input type="checkbox"/>	Power failure or short circuit may cause electric shock or fire. Check installation work and ground wire work.
	5	Is there any wrong installation of optional parts or wrong wiring?	<input type="checkbox"/>	
	6	Was the ground wire work performed?	<input type="checkbox"/>	
	7	Are there any wrong power supply wiring, wrong connection wire, wrong signal wire or loose screw?	<input type="checkbox"/>	
	8	Is the thickness of wire in accordance with rule?	<input type="checkbox"/>	
	9	Is the power-supply voltage equal to the nameplate of the unit?	<input type="checkbox"/>	
10	Was the check of the airtight test, flared tube fitting and gas leakage on the welded portion performed?	<input type="checkbox"/>	If the gas leakage occurs, the unit quality not only becomes inferior but affects environment. Repair it as quickly as possible.	
Drain Check	11	Has the adhesive been applied to the drain connecting portion (resin portion) of the indoor unit?	<input type="checkbox"/>	The resin portion cracks after a few months and it may cause water drain.
	12	Is there water leakage?	<input type="checkbox"/>	Since there is a possibility of water drain, repair the drain pipe if the drain failure or water drain occurs.
	13	Indoor unit drain pipe has a downward gradient (1/100 or more) by rule. Is the drain water flowing smoothly?	<input type="checkbox"/>	
Heat Insulation	14	Was the heat insulation work at a suitable location including the flared tube fitting (refrigerant tube & drain pipe) performed properly?	<input type="checkbox"/>	The quality of unit not only becomes inferior but there is a possibility of the water drain. So, perform the heat insulation work properly.
Optional Parts	15	Was the short-circuit connector connected or the fan tap changed when installing the air-blocking material?	<input type="checkbox"/>	The discharge temperature decreases in cooling mode according to the reduction of air volume and there is a possibility of dew drops. Be sure to change settings.
Test Run	16	Did the abnormal sound occur?	<input type="checkbox"/>	Check if there is a fan contact or distortion of the indoor unit.
	17	Did the cool and warm airflow discharge from the indoor unit?	<input type="checkbox"/>	Check if the unit does not operate or there is a wrong tubing or wiring connection with another system.

## ■ 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

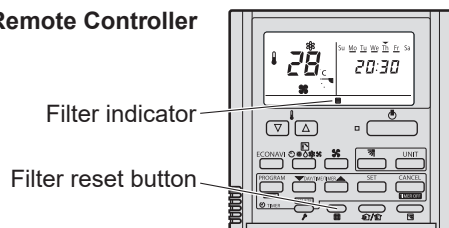
The air filter collects dust and other particles from the air and should be cleaned at regular intervals or when the filter indication (🌀) on the display of the remote controller (wired type) shows that the filter needs cleaning. If the filter gets blocked, the efficiency of the air conditioner drops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

Type	U3
Period	6 months

#### • After Cleaning

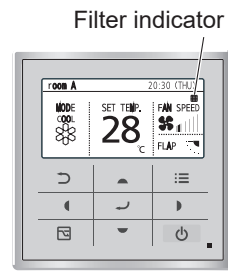
1. After the air filter is cleaned, reinstall it in its original position.  
Be sure to reinstall in reverse order.
2. [In the case of Timer Remote Controller]  
Press the Filter reset button.  
The 🌀 (Filter) indicator on the display goes out.

#### Timer Remote Controller

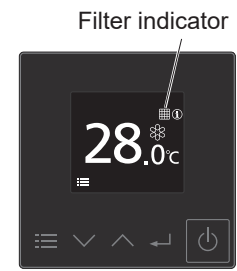


[In the case of High-spec Wired Remote Controller and Wired Remote Controller]  
Refer to the Operating Instructions attached to the optional High-spec Wired Remote Controller or optional Wired Remote Controller.

#### High-spec Wired Remote Controller



#### Wired Remote Controller



### NOTE

The frequency with which the filter should be cleaned depends on the environment in which the unit is used. Clean the filter frequently for best performance in the area of dusty or oil spots regardless of filter status.

#### <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.

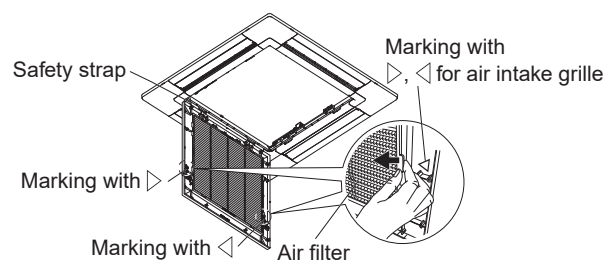
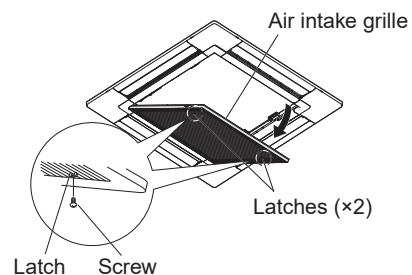
#### <How to remove the filter>

##### 4-Way Cassette Type (U3):

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 strap. If it is necessary to remove it for servicing and maintenance inside, be sure to reinstall the safety strap 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 ▽ 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	<ul style="list-style-type: none"> <li>• Sound of refrigerant liquid flowing inside unit</li> <li>• Sound of drainage water through drain pipe</li> </ul>
	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 accumulated in the air conditioner and its air is discharged. Unit inside is dusty. Consult your dealer.
Dewdrop	Dewdrop gets accumulated 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.)	<ul style="list-style-type: none"> <li>• Cleaning is necessary because unit inside (heat exchanger) is dirty. Consult your dealer as technical engineering is required.</li> <li>• During defrost operation</li> </ul>
Fan is rotating for a while even though operation stops.		<ul style="list-style-type: none"> <li>• Fan rotating makes operation smoothly.</li> <li>• Fan may sometimes rotates because of drying heat exchanger due to settings.</li> <li>• Fan may sometimes rotates in internal cleaning operation mode for a while.</li> </ul>
Wind-direction changes while operating. Wind-direction setting cannot be made. Wind-direction cannot be changed.		<ul style="list-style-type: none"> <li>• When air discharge temperature is low or during defrost operation, horizontal wind flow is made automatically.</li> <li>• Flap position is occasionally set up individually.</li> </ul>
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		<p>The indoor unit is initially designed to control the indoor temperature detected by the built-in room sensor inside the indoor unit.</p> <p>Due to indoor unit installation position, however, the built-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.</p> <p>In this case, the unit does not operate properly at the desired temperature.</p> <p>You may change the use of the temperature sensor inside the indoor unit to that of the remote controller.</p> <p>Then the desired room temperature can be controlled properly.</p> <p>For details, consult your dealer.</p>

## ● 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.	<ul style="list-style-type: none"> <li>Switch on power if breaker is turned off.</li> <li>If breaker has been tripped, consult your dealer without turning it on.</li> </ul>
	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.
	Fan speed switch is set to "Low".*	Change to "Medium" or "High".*
	Improper temperature settings	See "■ Tips for Energy Saving".
	Room is exposed to direct sunlight in cooling mode.	
	Doors and /or windows are open.	
	Air filter is clogged.	See "Care and Cleaning" on page 1-11-1-1-30.
	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 "Medium" or "High".*

\* Fan speed display on the remote controller

High :  (CZ-RTC4),  (CZ-RTC5B, CZ-RTC6\*)

Medium :  (CZ-RTC4),  (CZ-RTC5B, CZ-RTC6\*)

Low :  (CZ-RTC4),  (CZ-RTC5B, CZ-RTC6\*)

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.

## ■ 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. (See "Care and Cleaning" on page 1-11-1-1-30.) 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.

## Important Information Regarding The Refrigerant Used

### NOTE

See "■ Outdoor Unit" under the Section 1-11. Installation Instructions.

### ■ SERVICING



#### CAUTION

- Any qualified person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognised assessment specification.
  - Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
  - Servicing shall be performed only as recommended by the manufacturer.
  - Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, (2) to (6) shall be completed prior to conducting work on the system.
- (1) Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.
  - (2) All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.
  - (3) The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
  - (4) If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO<sub>2</sub> fire extinguisher adjacent to the charging area.
  - (5) No person carrying out work in relation to a refrigeration system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.
  - (6) Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
  - (7) Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.
    - The charge size is in accordance with the room size within which the refrigerant containing parts are installed.
    - The ventilation machinery and outlets are operating adequately and are not obstructed.
    - Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected.
    - Refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.
  - (8) Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.
 

Initial safety checks shall include:

    - That capacitors are discharged. This shall be done in a safe manner to avoid possibility of sparking.
    - That no live electrical components and wiring are exposed while charging, recovering or purging the system.
    - That there is continuity of earth bonding.
- During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc.
  - Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
  - Ensure that apparatus is mounted securely.
  - Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres.
  - Replacement parts shall be in accordance with the manufacturer's specifications.

#### NOTE:

The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
- Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere.
- The test apparatus shall be at the correct rating.
- Replace components only with parts specified by the manufacturer. Unspecified parts by manufacturer may result ignition of refrigerant in the atmosphere from a leak.

## ■ REMOVAL AND EVACUATION



### CAUTION

- When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:
  - Remove refrigerant.
  - Purge the circuit with inert gas.
  - Evacuate.
  - Purge again with inert gas.
  - Open the circuit by cutting or brazing.
- The refrigerant charge shall be recovered into the correct recovery cylinders.
- The system shall be “flushed” with Oxygen free nitrogen (OFN) to render the unit safe.
- This process may need to be repeated several times.
- Compressed air or oxygen shall not be used for this task.
- Flushing shall be achieved by breaking the vacuum in the system with Oxygen free nitrogen (OFN) and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum.
- This process shall be repeated until no refrigerant is within the system.
- When the final Oxygen free nitrogen (OFN) charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.
- This operation is absolutely vital if brazing operations on the pipe work are to take place.
- Ensure that the outlet for the vacuum pump is not close to any ignition sources and there is ventilation available.

## ■ CHARGING PROCEDURES

### NOTE

See “■ Outdoor Unit” under the Section 1-11. Installation Instructions.

## ■ DECOMMISSIONING



### CAUTION

- Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its details.
- It is recommended good practice that all refrigerants are recovered safely.
- Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant.
- It is essential that electrical power is available before the task is commenced.
  - a) Become familiar with the equipment and its operation.
  - b) Isolate system electrically.
  - c) Before attempting the procedure ensure that:
    - Mechanical handling equipment is available, if required, for handling refrigerant cylinders.
    - All personal protective equipment is available and being used correctly.
    - The recovery process is supervised at all times by a competent person.
    - Recovery equipment and cylinders conform to the appropriate standards.
  - d) Pump down refrigerant system, if possible.
  - e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
  - f) Make sure that cylinder is situated on the scales before recovery takes place.
  - g) Start the recovery machine and operate in accordance with manufacturer’s instructions.
  - h) Do not overfill cylinders. (No more than 80 % volume liquid charge).
  - i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
  - j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
  - k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.
- Electrostatic charge may accumulate and create a hazardous condition when charging or discharging the refrigerant. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before charging / discharging.

## ■ RECOVERY

### NOTE

See “11. Recovery” on page 1-11-2-1-6.

Option Parts

■ Air Intake Chamber

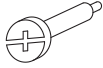


CZ-FDU3

Installation Instructions

Accessory parts

The accessory parts are required for the installation work so they should not be discarded until the work is completed.

- The following parts are provided inside the package so check that they are accounted for.

Part name	No. of parts	Part name	No. of parts	Part name	No. of parts
Screws (5 x 40)  (Used to secure this Air intake chamber)	4	Washers  (Used to secure this Air intake chamber)	4	Installation instructions 	1

Mounting procedure

Before proceeding with the mounting, remove the cushions which have been inserted into the air outlets (in 4 places).

<1> Mounting Air intake chamber (Fig. 1-11-1-1-1)

- Place the black sealant side of Air intake chamber toward the indoor unit.  
(Air intake chamber can be mounted correctly in only one way so ensure that the shapes of the indoor unit and chamber are aligned properly.)
- Use the accessory screws (x4) to secure the indoor unit and Air intake chamber.

<2> Installing the indoor unit

- Install the indoor unit with Air intake chamber mounted on it to the ceiling.  
(Now proceed with the installation in accordance with the installation instructions provided with the indoor unit.)

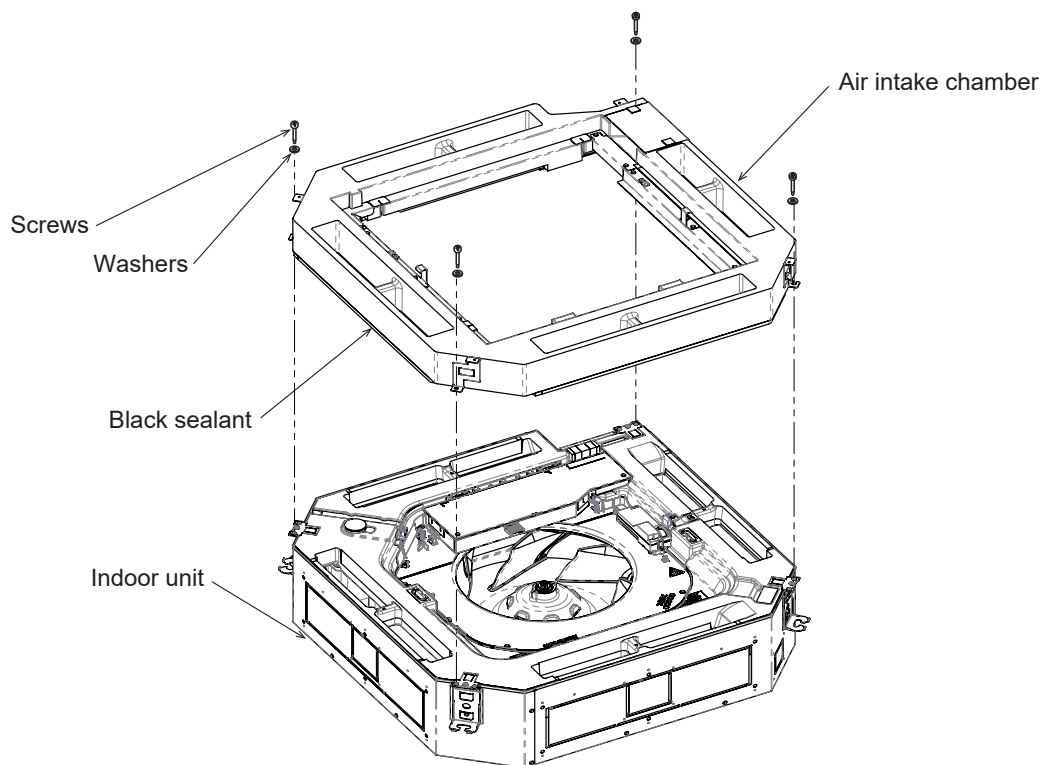


Fig. 1-11-1-1-1

<3> Mounting the ceiling panel (Fig. 1-11-1-1-2)

- Mount the ceiling panel to the indoor unit (with Air intake chamber).  
(For details on how the ceiling panel is to be mounted, refer to the installation instructions which are provided with the ceiling panel.)

<4> Connecting the panel cables (Fig. 1-11-1-1-2)

- Remove the cover of Air intake chamber, and remove the cover of electrical component box.
- Cut the clamp used to bundle the ceiling panel cable, insert the 22P connector (white) of the cable into the through-hole in Air intake chamber, and connect it to the 22P connector inside the electrical component box.
- Return the cover of electrical component box and the cover of Air intake chamber to their original positions.

Mounting procedure (continued)

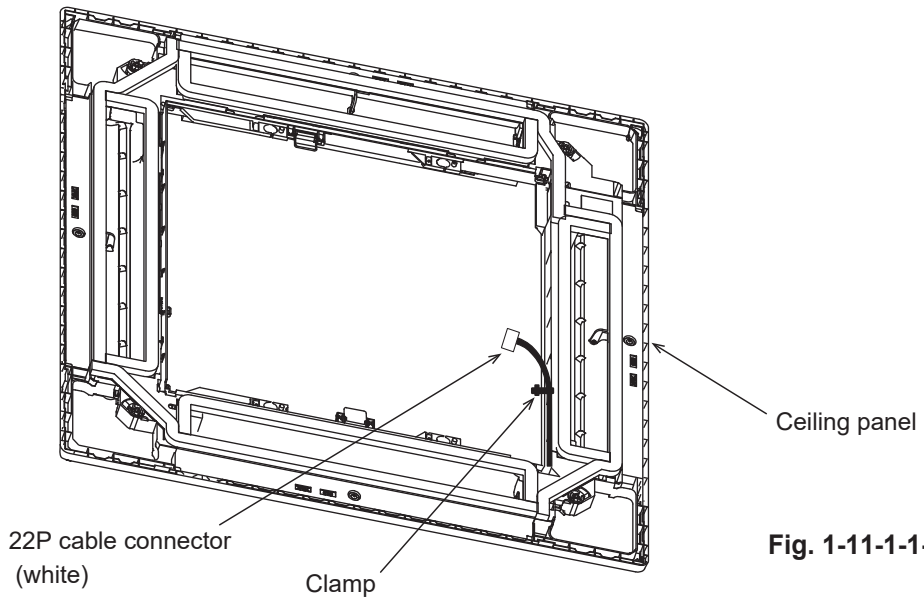
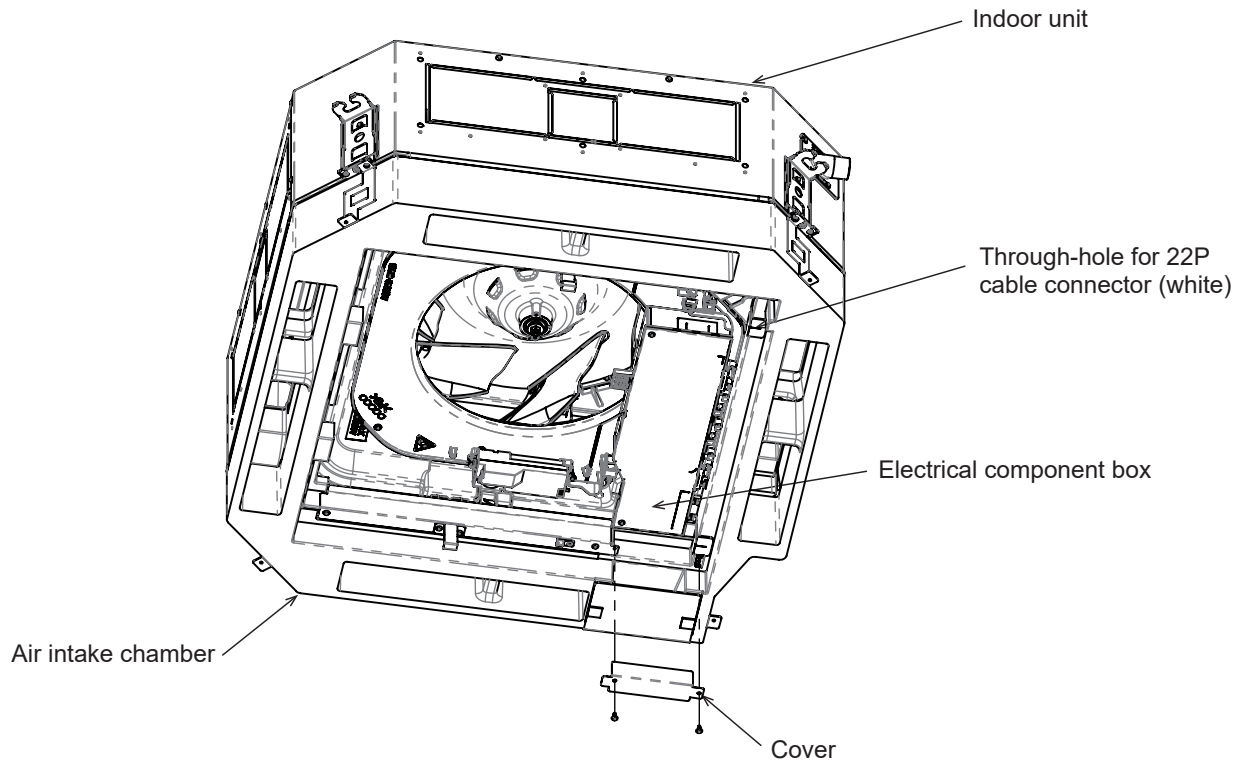


Fig. 1-11-1-1-2



## Selecting the DC fan motor taps

It is necessary to set the fan speed in accordance with the intended application and the optional parts to be used if any such part is used. (Table 1-11-1-1-1)

If this speed is not changed, a reduction in the air flow may result, causing the air outlet temperature to drop and condensation to form during cooling.

There are two ways to set the fan speed: either (1) change the positions of the DIP switches on the indoor unit control PCB or (2) set the speed using the wired remote controller. Select one of these ways.

\* Priority is given to setting the fan speed by changing the positions of the DIP switches.

**Table 1-11-1-1-1 DC fan motor tap setting table**

Setting No	Item code 5D/5d setting data	Intended application / name of optional parts	Setting No	Item code 5D/5d setting data	Intended application / name of optional parts
	0000	Standard (factory setting)	(1)	0001	Air-flow blocking kit (for 3-way air flow)
(1)	0001	High-ceiling setting 1 (with standard, ECONAVI panel)	(3)	0003	High-ceiling setting 2 (with standard, ECONAVI panel)
		Air-flow blocking kit (when a duct is connected.)	(6)	0006	Air-flow blocking kit (for 2-way air flow)

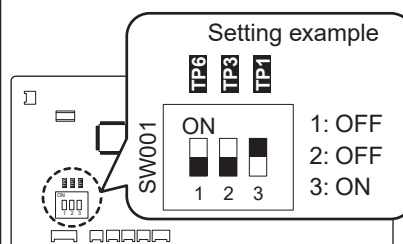
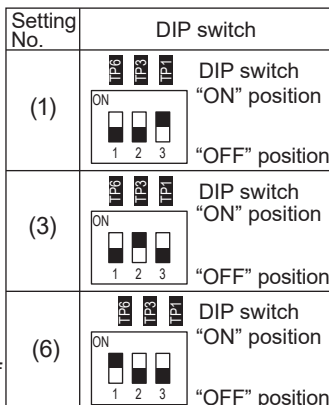
### (1) When setting the fan speed by changing the positions of the DIP switches on the indoor unit control PCB

<Procedure> Be absolutely sure to turn off the power (earth-leakage circuit breaker).

<1> On Table 1-11-1-1-1, check out the "Setting No." that corresponds to the intended application and the optional parts to be used.

<2> Open the cover of the electrical component box, and check the indoor unit control PCB. (Fig. 1-11-1-1-3)

<3> Select the Setting No. which was checked out on Table 1-11-1-1-1, and change the positions of the DIP switches on the indoor unit control PCB.



**Fig. 1-11-1-3 Indoor unit control PCB**

### (2) When setting the fan speed using a wired remote controller (optional parts: CZ-RTC5A, CZ-RTC5B)

On Table 1-11-1-1-1, check out the "Item code 5D setting data" that corresponds to the intended application and the optional parts to be used.

<Procedure> Ensure that the unit has stopped operating before changing the fan speed.

<1> Hold down the + + buttons together for at least 4 seconds.

The maintenance function screen is displayed.

<2> Use the / buttons to select the display and the / buttons to select the page.

Select "8. Detailed settings" and press the button.

The [Detailed settings screen] appears.

Using the / buttons, select the unit No.

<3> Using the / buttons, select the item code.

Using the / buttons, change the item code to "5D."

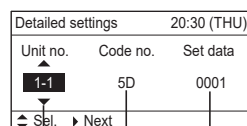
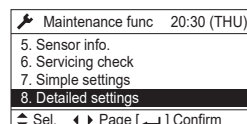
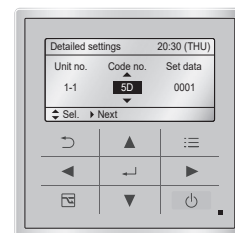
<4> Using the / buttons, select the setting data.

Using the / buttons, change the setting data to the value checked out on Table 1-11-1-1-1, and press the button.

<5> After selecting the unit No. using the / buttons, press the button.

The [Detailed settings completion screen] appears.

Select "Yes", and press the .



Unit No. | Setting data  
Item code

### (3) When setting the fan speed using a wired remote controller (optional parts: CZ-RTC4)

On Table 1-11-1-1-1, check out the "Item code 5d setting data" that corresponds to the intended application and the optional parts to be used.

<Procedure> Ensure that the units have stopped operating before changing the fan speed.

<1> Hold down the + + buttons together for at least 4 seconds.

<2> Each time the button is pressed, the numbers of the indoor units under group control are displayed in sequence.

The fan motor of only the indoor unit that has been selected will run.

<3> Specify item code "5d" using the temperature setting () / () buttons.

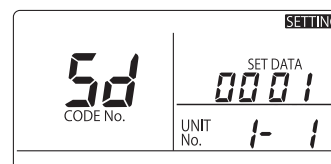
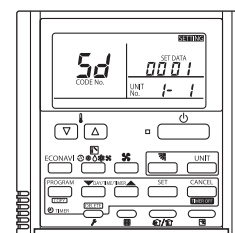
<4> Change the setting data using the hour / buttons. The setting data details are as given on Table 1-11-1-1-1.

<5> Press the button. (OK if the display changes from flashing to lighted.)

<6> Press the button. The normal stop status is established.

Go to step <2> to change the selected indoor unit.

<7> Press the button. The normal stop status is established.



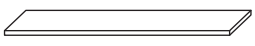

■ Air-flow Blocking Kit

CZ-CFU3

Installation Instructions

Accessory parts

The accessory parts are required for the installation work so they should not be discarded until the work is completed.

Part name	No. of parts	Part name	No. of parts	Part name	No. of parts
Air-flow blocker (470×65×T10)	3	Sealer (570×90×T2)	2	Installation instructions	1
A:2					
B:1					

Mounting procedure

(1) Checking where the air-flow blocker is to be attached

For Air outlet<1>

When Air-flow blocker A is to be attached, cut it in parallel with the slit. (Fig. 1-11-1-4)

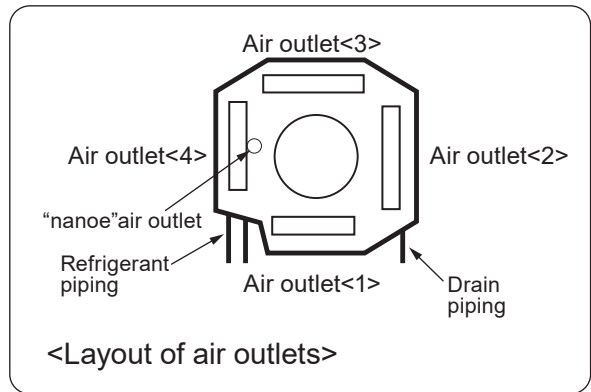
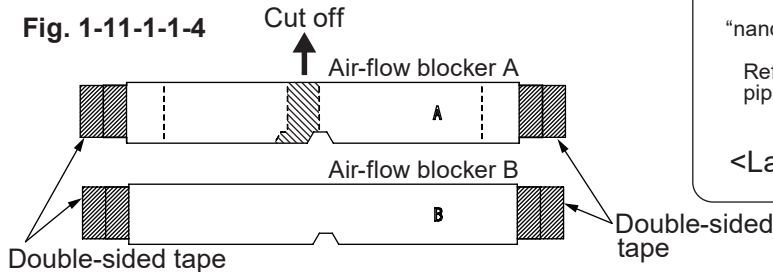
For Air outlet<2>

Air-flow blocker B can be used as is.

For Air outlet<3>or<4>

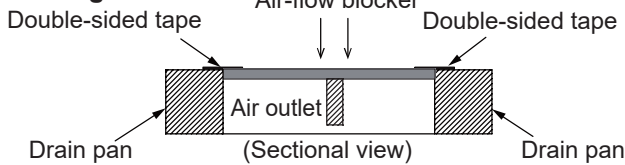
Air-flow blocker A can be used as is.

Fig. 1-11-1-4



(2) Fit the air-flow blocker into place to match the shape of the air outlet, adhere the tape of the both side of air-flow blocker to the drain pan and adhere the sealer on top to block the passage of air. (Fig. 1-11-1-5) (Fig. 1-11-1-6)

Fig. 1-11-1-5



(3) Adhere the sealer to the drain pan with an overlap of 10 mm or more. (Condensation may form if it is adhered with no overlap.) (fig. 1-11-1-7)

\*1 Ensure that the sealer does not come into contact with the corner metal fitting.

\*2 Cut the sealer diagonally so that no contact is made with the wire.

Fold the protruding parts of the sealer over the side panel, and adhere them into place.

Fig. 1-11-1-6

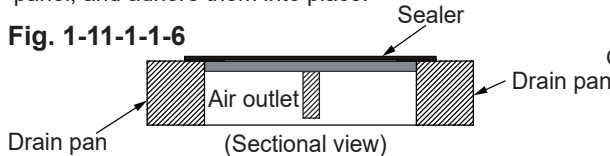
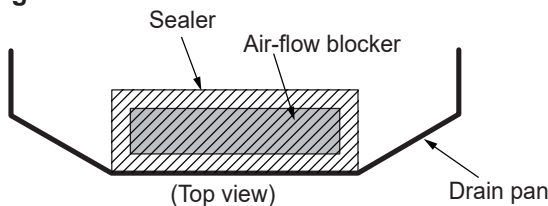
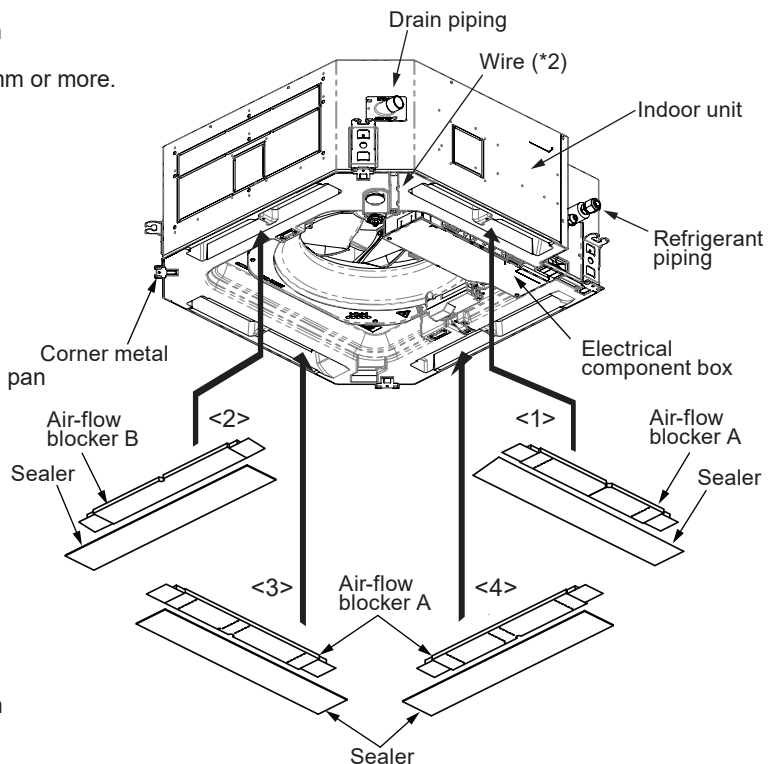


Fig. 1-11-1-7



Please affix in accordance with the end of the drain pan.



### Air outlet blocking patterns

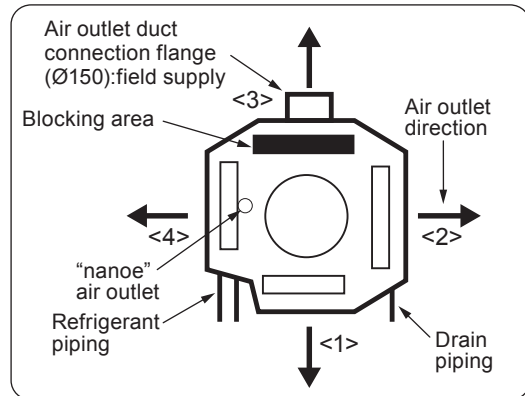
#### As seen from underneath the indoor unit

- When a 2- or 3-way air outlet configuration is used or when the air outlet duct connection flange (Ø150):field supply is connected, block the air outlets as per the air outlet blocking patterns illustrated below.

Also, see the table below, and decide on where the pipings are to be positioned.  
(To better understand what the illustrations show, see the figure on the right.)

Note: Take care to prevent cold air leaks and deficient insulation while performing the air outlet duct connection flange (Ø150):field supply work in order to prevent condensation from forming.

- It should be borne in mind that any air outlet blocking pattern with the hatching mark will make it impossible for the “nanoe” nano-technology fine particle function to work.
- Under no circumstances must any air outlet blocking patterns not shown in the table below be used.



3-way air outlet One outlet can be blocked.				
2-way air outlet Two outlets can be blocked.				
Air outlet duct connection flange (Ø150):field supply connection 3-way air outlet One outlet can be blocked and connected to a duct.				
Air outlet duct connection flange (Ø150):field supply connection 2-way air outlet Two outlets can be blocked and connected to a duct.  Note: The duct can be connected only in one of the locations shown.				

#### Changing the DC fan tap settings

While referring to “Selecting the DC fan motor taps”, change the DC fan speed by using the wired remote controller or by setting the DIP switches on the indoor unit control PCB.

## Selecting the DC fan motor taps

It is necessary to set the fan speed in accordance with the intended application and the optional parts to be used if any such part is used. (Table 1-11-1-1-2)

If this speed is not changed, a reduction in the air flow may result, causing the air outlet temperature to drop and condensation to form during cooling.

There are two ways to set the fan speed: either (1) change the positions of the DIP switches on the indoor unit control PCB or (2) set the speed using the wired remote controller. Select one of these ways.

\* Priority is given to setting the fan speed by changing the positions of the DIP switches.

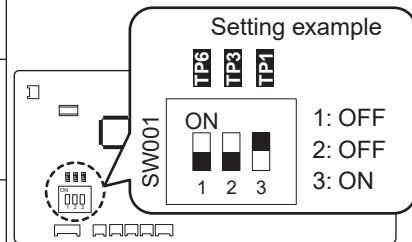
**Table 1-11-1-1-2 DC fan motor tap setting table**

Setting No	Item code 5D/5d setting data	Intended application / name of optional parts	Setting No	Item code 5D/5d setting data	Intended application / name of optional parts
	0000	Standard (factory setting)	(1)	0001	Air-flow blocking kit(for 3-way air flow)
(1)	0001	High-ceiling setting 1 (with standard, ECONAVI panel)	(3)	0003	High-ceiling setting 2 (with standard, ECONAVI panel)
		Air-flow blocking kit (when a duct is connected.)	(6)	0006	Air-flow blocking kit (for 2-way air flow)

### (1) When setting the fan speed by changing the positions of the DIP switches on the indoor unit control PCB

- <Procedure> Be absolutely sure to turn off the power (earth-leakage circuit breaker).
- <1> On Table 1-11-1-1-2, check out the "Setting No." that corresponds to the intended application and the optional parts to be used.
- <2> Open the cover of the electrical parts box, and check the indoor unit control PCB. (Fig. 1-11-1-1-8)
- <3> Select the Setting No. which was checked out on Table 1-11-1-1-2, and change the positions of the DIP switches on the indoor unit control PCB.

Setting No.	DIP switch
(1)	<p>DIP switch "ON" position</p> <p>"OFF" position</p>
(3)	<p>DIP switch "ON" position</p> <p>"OFF" position</p>
(6)	<p>DIP switch "ON" position</p> <p>"OFF" position</p>



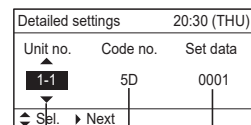
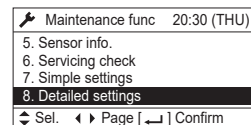
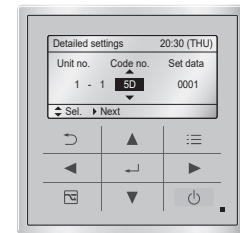
**Fig. 1-11-1-1-8**  
Indoor unit control PCB

### (2) When setting the fan speed using a wired remote controller (optional parts: CZ-RTC5B)

On Table 1-11-1-1-2, check out the "Item code 5D setting data" that corresponds to the intended application and the optional parts to be used.

<Procedure> Ensure that the unit has stopped operating before changing the fan speed.

- <1> Hold down the + + buttons together for at least 4 seconds. The maintenance function screen is displayed.
- <2> Use the / buttons to select the display and the / buttons to select the page. Select "8. Detailed settings" and press the button. The [Detailed settings screen] appears. Using the / buttons, select the unit No.
- <3> Using the / buttons, select the item code. Using the / buttons, change the item code to "5D."
- <4> Using the / buttons, select the setting data. Using the / buttons, change the setting data to the value checked out on Table 1-11-1-1-2, and press the button.
- <5> After selecting the unit No. using the / buttons, press the button. The [Detailed settings completion screen] appears. Select "Yes", and press the button.



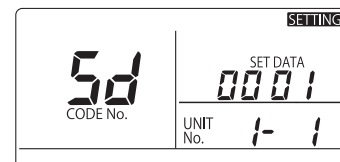
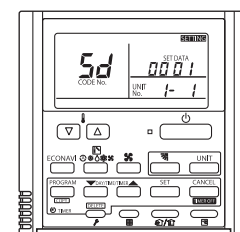
Unit No.      Setting data  
Item code

### (3) When setting the fan speed using a wired remote controller (optional parts: CZ-RTC4)

On Table 1-11-1-1-2, check out the "Item code 5d setting data" that corresponds to the intended application and the optional parts to be used.

<Procedure> Ensure that the units have stopped operating before changing the fan speed.

- <1> Hold down the + + buttons together for at least 4 seconds.
- <2> Each time the button is pressed, the numbers of the indoor units under group control are displayed in sequence. The fan motor of only the indoor unit that has been selected will run.
- <3> Specify item code "5d" using the temperature setting ( / ) buttons.
- <4> Change the setting data using the hour buttons. The setting data details are as given on Table 1-11-1-1-2.
- <5> Press the button. (OK if the display changes from flashing to lighted.)
- <6> Press the button. The normal stop status is established. Go to step <2> to change the selected indoor unit.
- <7> Press the button. The normal stop status is established.



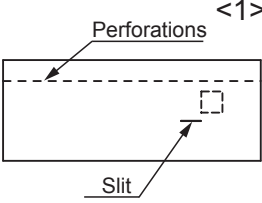
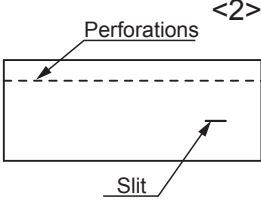
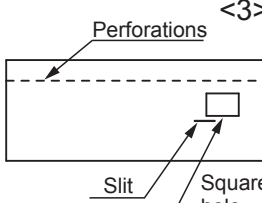
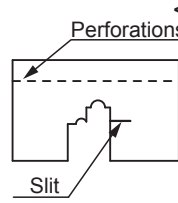
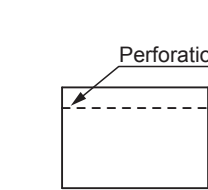

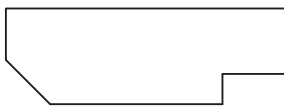
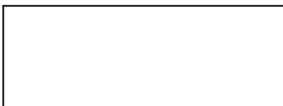



■ Thermal Insulation Kit

CZ-INSU3

Installation Instructions

Parts installed on the indoor unit

● Details of parts

Part name	Side panel insulator	Side panel insulator	Side panel insulator	Side panel insulator
Shape				
No. of parts	1	1	1	1
Part name	Side panel insulator	Side panel insulator	Ceiling insulator	Ceiling insulator
Shape				
No. of parts	1	1	1	1
Part name	Ceiling insulator	Hanger insulator	Installation instructions	
Shape				
No. of parts	1	4	1	

● Procedure for attaching the parts

\* Indoor unit has two kinds of heights.(Large unit=319mm, Small unit=256mm)

When attaching the side panel insulator to the small unit, attach it after cutting along its perforations of the parts <1> to <5>

1. Align the slits of the side panel insulators <1> to <4> with the hanger, and attach the parts to the side panels of the indoor unit. (Fig. 1-11-1-1-9)
2. Now attach the side panel insulator <5> to the side panel of the indoor unit. (Fig. 1-11-1-1-9)
3. Align the side panel insulator <6> with the piping cover, and attach the part. (Fig. 1-11-1-1-9)
4. Attach the ceiling insulators <7> to <9> in such a way that no gaps are left. (Fig. 1-11-1-1-10)

Do the following procedures after installing the indoor unit.

5. Attach the hanger insulators <10> to the hangers in the directions shown in the figure. (Fig. 1-11-1-1-11)

\* Keep hanger insulator <10> until installing the indoor unit.

Parts installed on the indoor unit (continued)

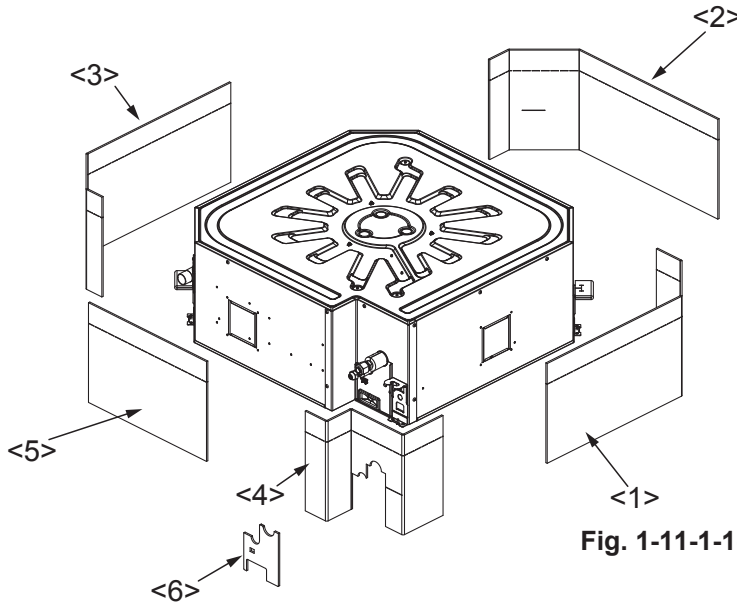


Fig. 1-11-1-1-9

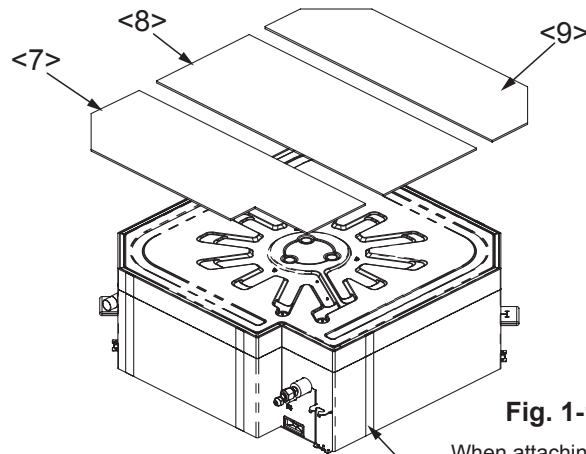


Fig. 1-11-1-1-10

When attaching the insulators, ensure that they overlap. (Side insulators <1> to <5>)

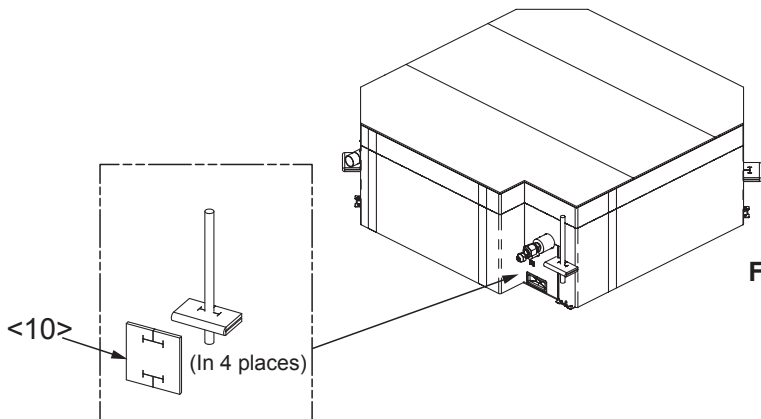


Fig. 1-11-1-1-11

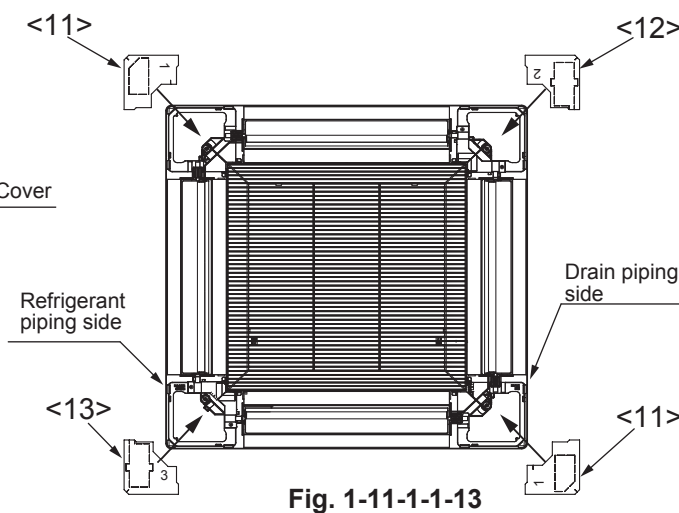
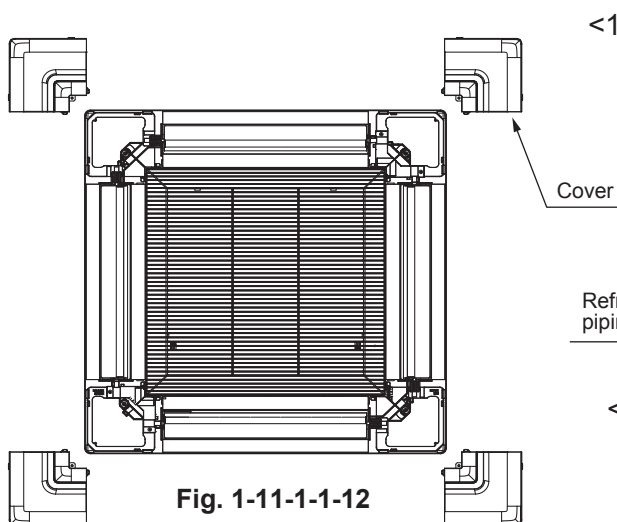
Parts mounted on ceiling panels

● Details of parts

Part name	Insulator	Insulator	Insulator	Insulator	Insulator	Insulator
Shape	<p>&lt;11&gt;</p>	<p>&lt;12&gt;</p>	<p>&lt;13&gt;</p>	<p>&lt;14&gt;</p>	<p>&lt;15&gt;</p>	<p>&lt;16&gt;</p>
No. of parts	2	1	1	2	1	1

● Procedure for attaching the parts

1. Remove the covers in the four corners. (Fig. 1-11-1-1-12)
2. Fit the ceiling panel to the indoor unit.  
(For details on how the ceiling panel is to be fitted, refer to the installation instructions which are provided with the ceiling panel.)
3. Fit the insulators <11> to <13> onto the four corners of the ceiling panel exactly as shown in Fig. 1-12-1-2-13.
4. Fit the cover in place. The cover can fall off in this state so be absolutely sure to secure it in place using the fixing screws.



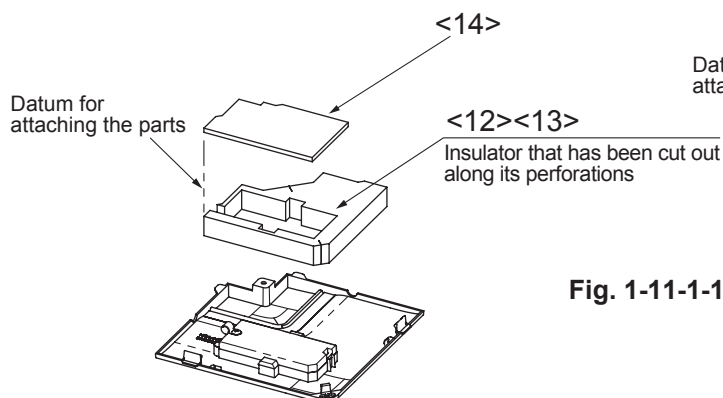
<When mounting the parts onto the receivers (Fig. 1-11-1-1-14)>

Cut out along the perforations the insulators <11>, <12> and/or <13> that fit the mounting location, mount them by matching them to the shape of each receiver, and attach the covers to the ceiling panel.

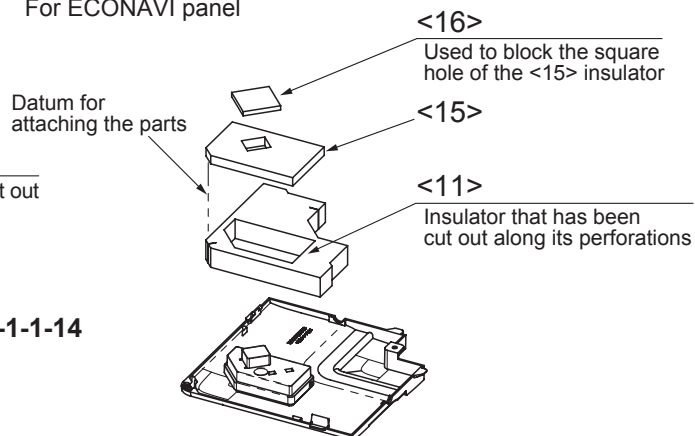
\* Be absolutely sure to use the maximum dimensions of 910 mm × 910 mm for the extent of the ceiling opening so that the ceiling surface and insulators will not absorb any shocks.

(For details on how the ceiling panel is to be fitted, refer to the installation instructions which are provided with the ceiling panel.)

For Wireless remote controller receiver



For ECONAVI panel



## 2. Middle Static Pressure Duct Type (F3) S-3650PF3E, S-6071PF3E

### ● SELECTING THE INSTALLATION SITE

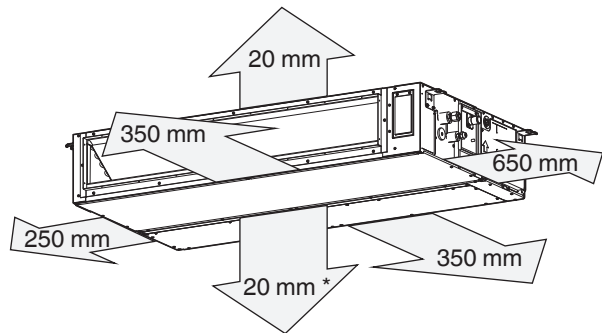
#### AVOID:

- 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.
- make sure to install protective guards on the suction and discharge side to prevent somebody from touching the fan blades or heat exchanger.
- 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 airflow around the unit.
- the limitation of the tubing length between the indoor and the outdoor units should be referred to the Installation Instructions of the outdoor unit.
- allow room for mounting the remote controller about 1m off the floor, in an area that is not in direct sunlight or in the flow of cool air from the indoor unit.

#### < Horizontal installation >

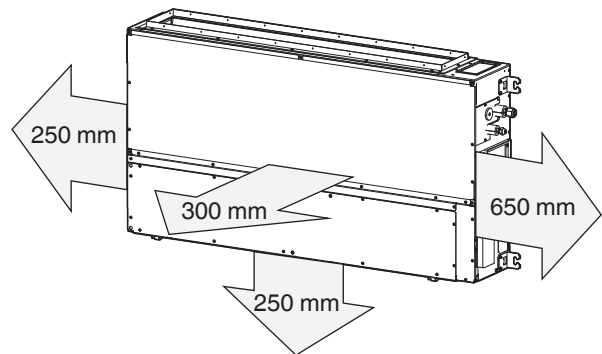


- \* It is necessary to make space for the cleaning as well as the maintenance of the drain pan and the heat exchanger. Do not put any obstacle not to cause obstructing maintenance or cleaning works.

If the place where the ceiling material cannot be removed, make an opening section below the bottom surface of the indoor unit in order to take it out.

If it is impossible to provide an opening, make space more than 300 mm between the indoor unit's bottom surface and the ceiling material.

#### < Vertical installation >





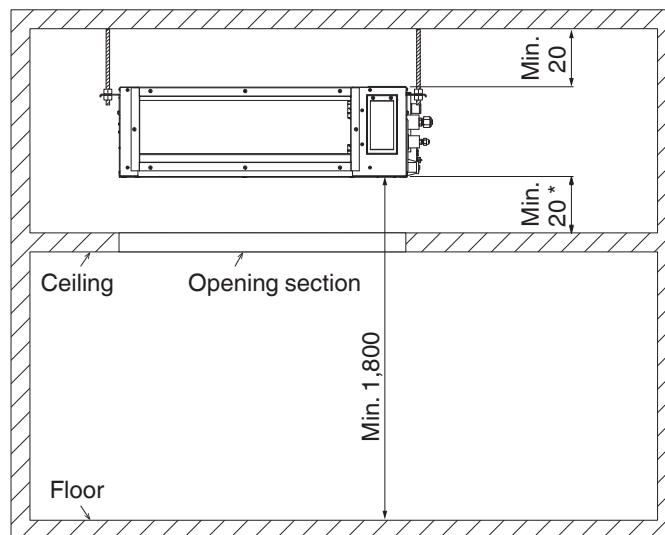
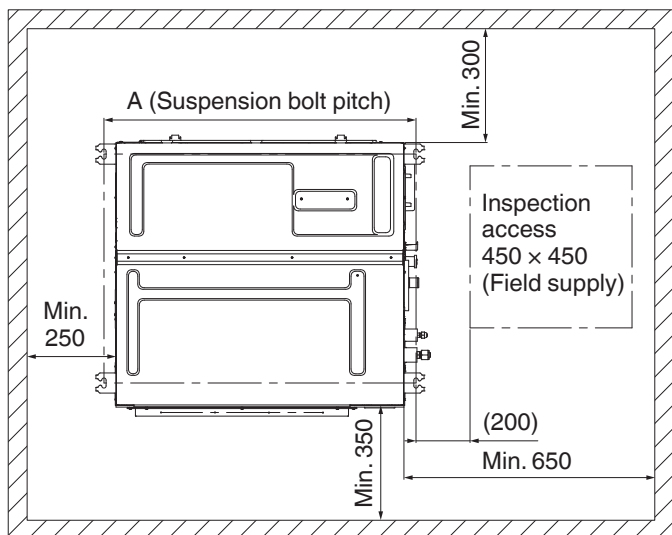
## HOW TO INSTALL THE INDOOR UNIT

### ● Required Minimum Space for Installation and Maintenance Services

#### < Horizontal installation >

- This air conditioner is usually installed above the ceiling so that the indoor unit and ducts are not visible. Only the air intake and air outlet ports are visible from below.
- The minimum space for installation and maintenance services is shown in the figure.

Unit: mm



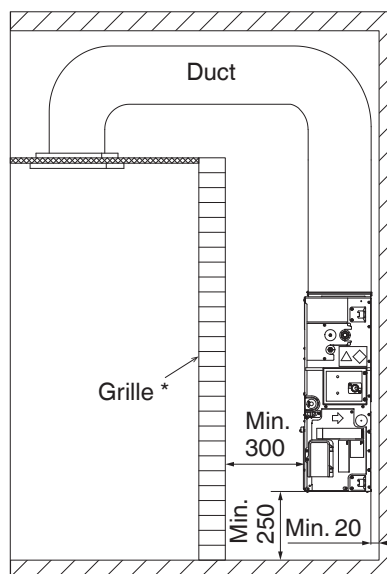
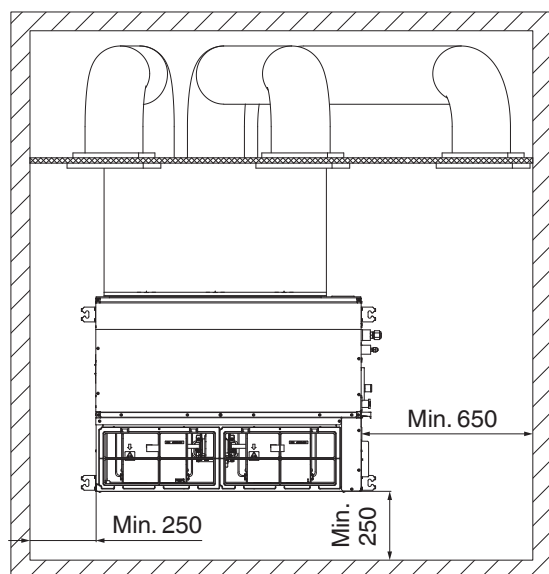
#### Minimum space for installation and maintenance services

Unit: mm

Type	3650	6071
A (Length)	867	1,067

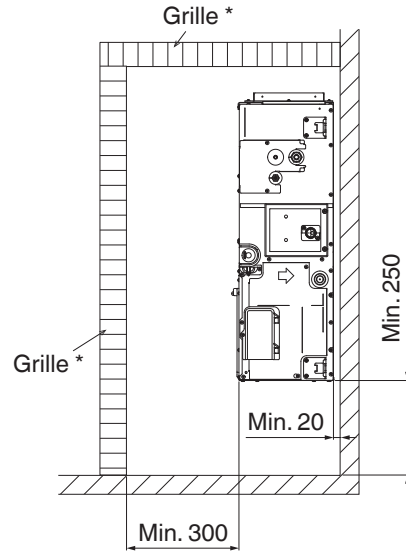
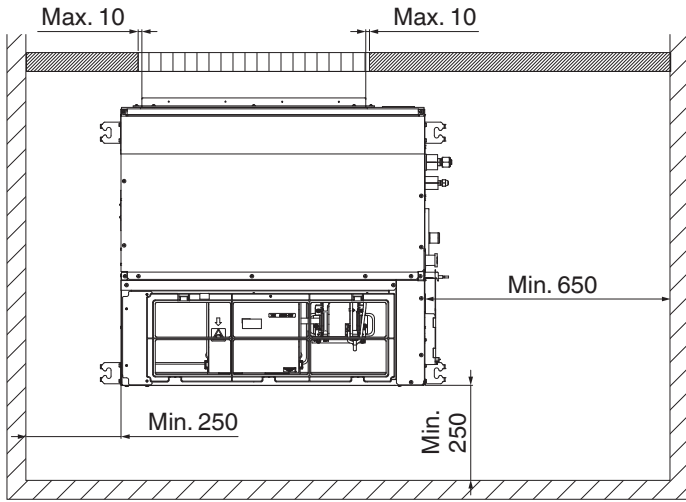
\* It is necessary to make space for the cleaning as well as the maintenance of the drain pan and the heat exchanger. Do not put any obstacle not to cause obstructing maintenance or cleaning works. If the place where the ceiling material cannot be removed, make an opening section below the bottom surface of the indoor unit in order to take it out. If it is impossible to provide an opening, make space more than 300 mm between the indoor unit's bottom surface and the ceiling material.

#### < Vertical installation >



Unit: mm

\* Make it possible to open / close for maintenance services.



Unit: mm

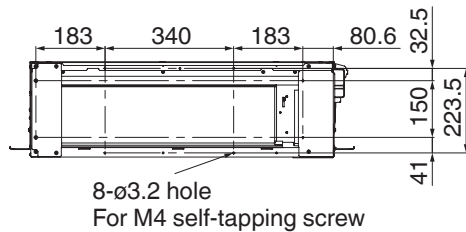
\* Make it possible to open / close for maintenance services.

- It is recommended that space be provided (450 × 450 mm) for checking and servicing the electrical system.

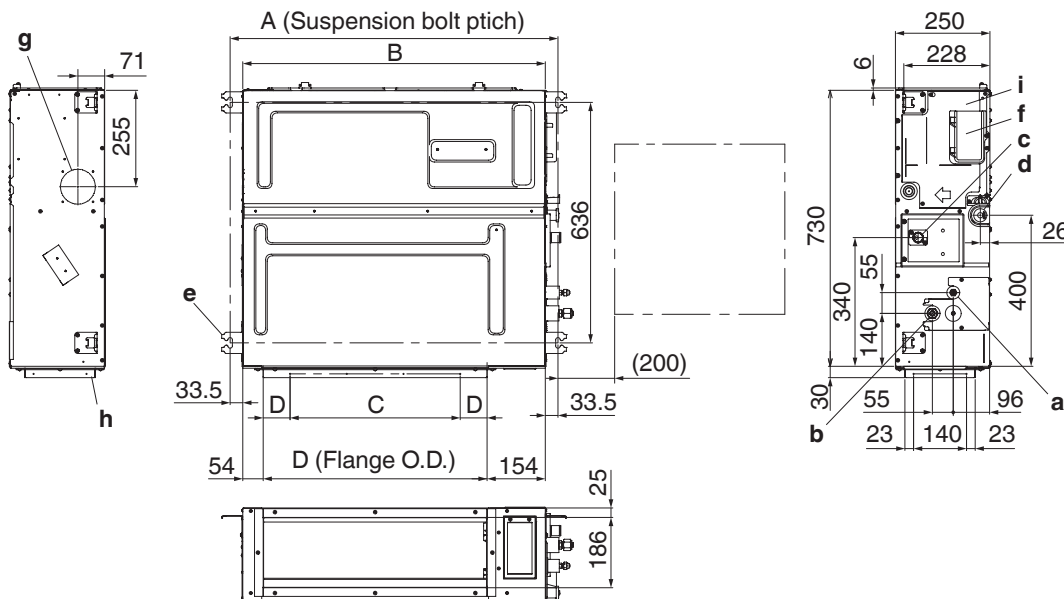
**Detailed dimensions of indoor unit**

Unit: mm

Type	A	B	C	D	E	F
3650	867	800	450 (Pitch 150 × 3)	71	592	12
6071	1,067	1,000	750 (Pitch 150 × 5)	21	792	16



- a) Refrigerant tubing joint (liquid tube)
- b) Refrigerant tubing joint (gas tube)
- c) Upper drain port VP20 (ø26 mm)  
200 mm flexible hose supplied
- d) Bottom drain port VP20 (ø26 mm)
- e) Suspension lug (4 – 12 × 30 mm)
- f) Power supply outlet
- g) Fresh air intake port (ø100 mm)
- h) Flange for flexible air outlet duct
- i) Electrical component box



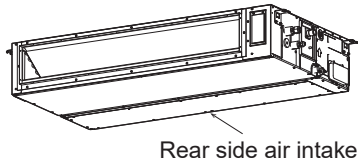
Unit: mm

● Preparation Before Installation

Main Types of Installation

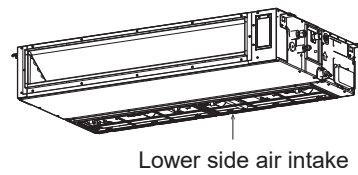
Case A (Standard installation)

Horizontal installation in the ceiling, rear side air intake



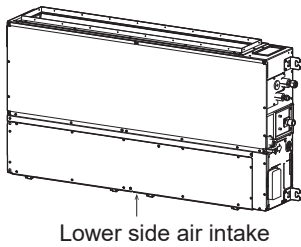
Case B

Horizontal installation in the ceiling, lower side air intake



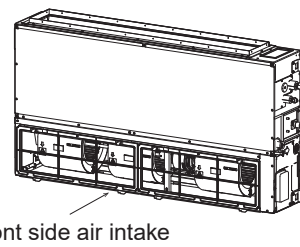
Case C

Vertical installation on the sidewall, lower side air intake



Case D

Vertical installation on the sidewall, front side air intake



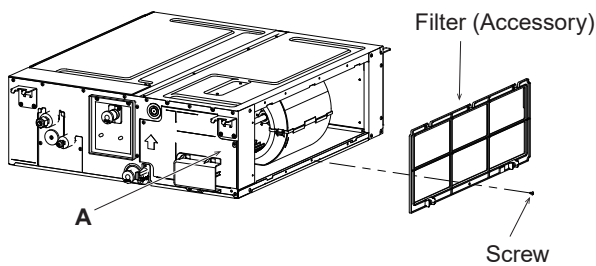
\* While in heating mode, the temperatures may increase higher than the set temperature.

\* While in heating mode, the temperatures may increase higher than the set temperature.

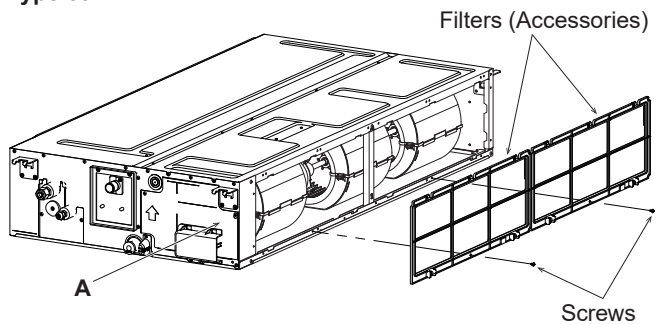
Install the Filter

When not connecting the air intake duct, be sure to install the filters (Accessories). Case A and Case C are shown below.

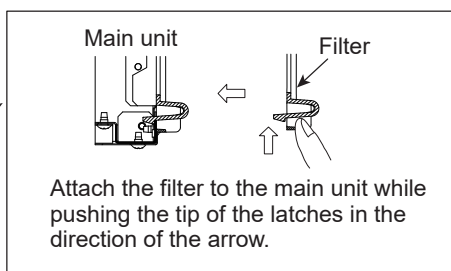
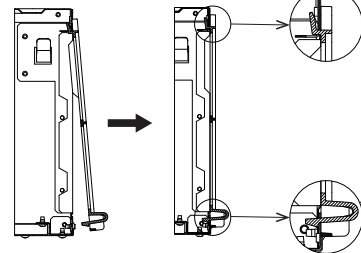
Type 3650



Type 6071



View A



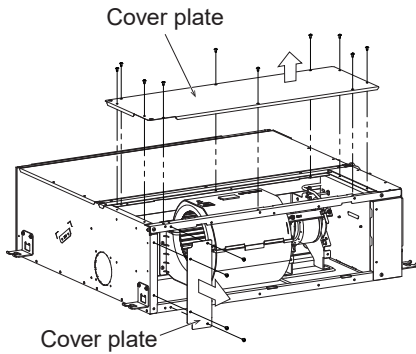
Attach the filters (accessories) in the manner shown in the figure. Securely fix the filters with the screws.

Case B and Case D are shown below.

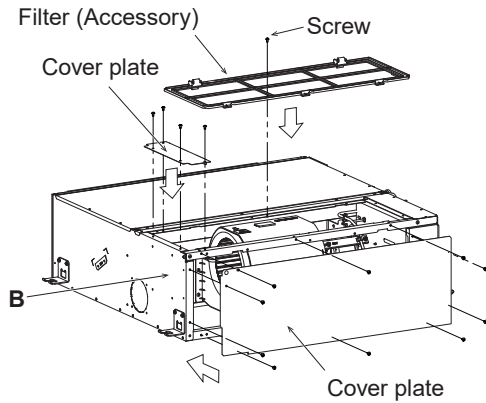
For Case B and Case D, replace the cover plates in the procedure shown in the figure.

**Type 3650**

1. Remove the cover plates (2 pcs).

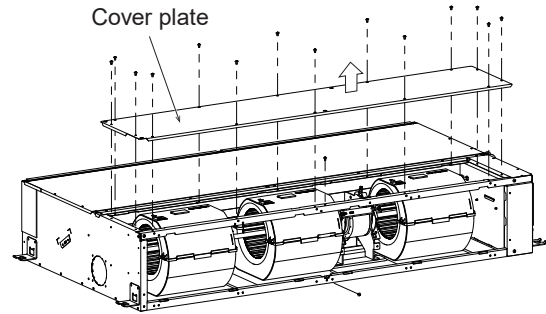


2. Attach the cover plates removed in step 1 and filter (accessory) in the direction shown in the figure below.

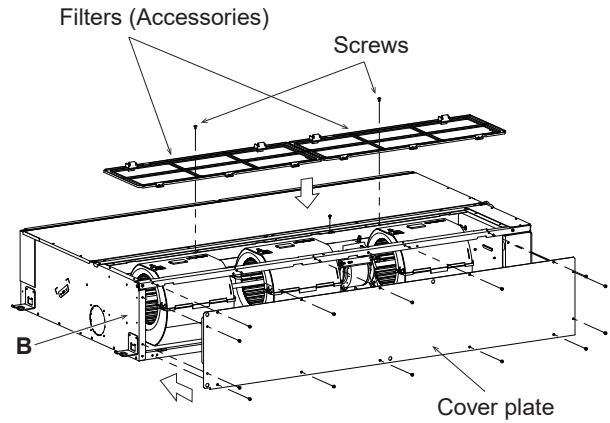


**Type 6071**

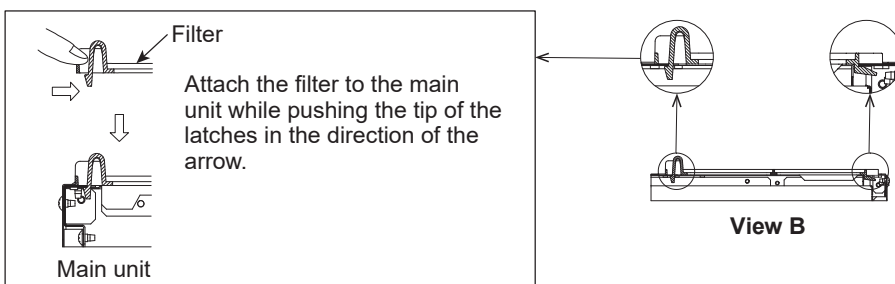
1. Remove the cover plate.



2. Attach the cover plate removed in step 1 and filters (accessories) in the direction shown in the figure below.



3. Attach the filters (accessories) in the manner shown in the figure. Securely fix the filters with the screws.

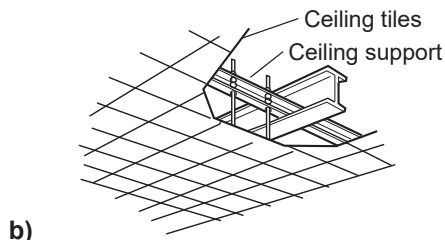
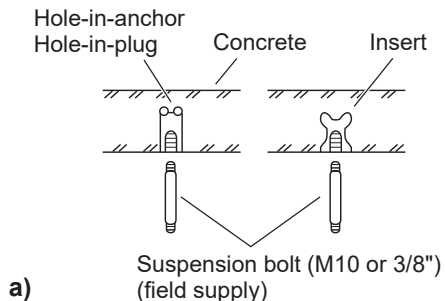


● **Fix the Indoor Unit**

**Horizontal Installation**

Depending on the ceiling type:

- a) Insert suspension bolts  
or
- b) Use existing ceiling supports or construct a suitable support.



**! WARNING**

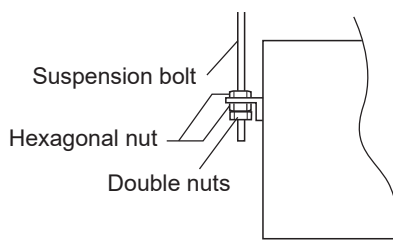
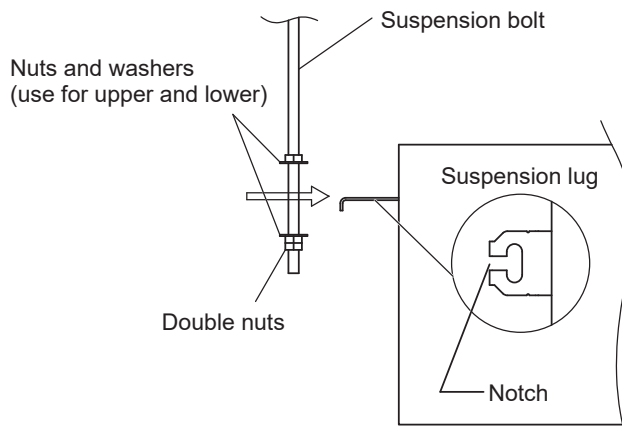
It is important that you use extreme care in supporting the indoor unit inside the ceiling. Ensure that the ceiling is strong enough to support the weight of the unit. Before hanging the unit, test the strength of each attached suspension bolt.

- (1) When placing the unit inside the ceiling, determine the pitch of the suspension bolts referring to the dimensional data as shown in the tables and diagrams under the section 3-1. on page 1-11-1-2-2. Tubing must be laid and connected inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the tubing into position for connection to the unit before placing the unit inside the ceiling.
- (2) Screw in the suspension bolts allowing them to protrude from the ceiling. (Cut the ceiling material, if necessary.)

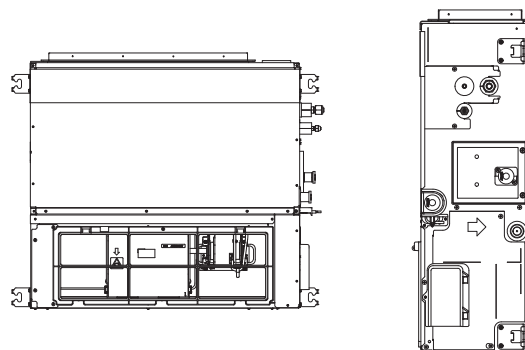
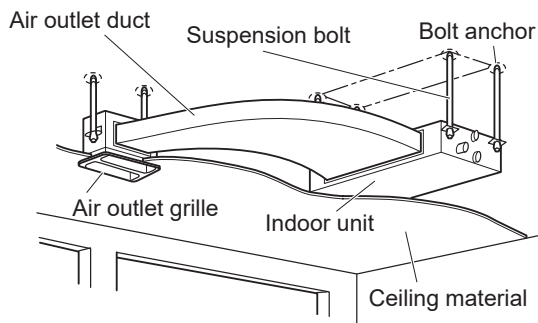
**Vertical Installation**

- To prevent overturning, fasten the unit to the wall securely.
- Check to make sure the wall can endure 5 times of weight of the unit. Ensure to fix the unit.
- In order to suppress vibrations, provide the spacer between the unit and the wall.
- Fasten the hanging brackets and bolts using by the hexagon nuts and washers.
- Check to make sure the unit is installed in a horizontal position by using a level. Water leakage may occur if the unit is not installed horizontally.

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



- This shows an example of installation.



## Installing the Drain Pipe

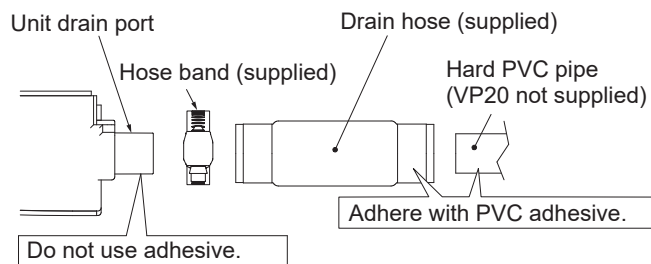
- (1) Prepare standard hard PVC pipe (O.D.26 mm) for the drain and use the supplied hose band to prevent water leaks. The PVC pipe must be purchased separately. The transparent drain part on the unit allows you to check drainage.

### ⚠ CAUTION

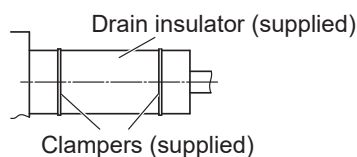
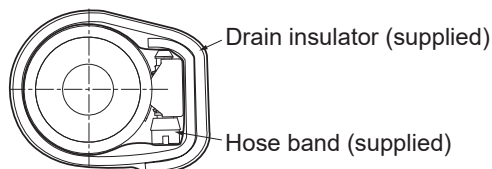
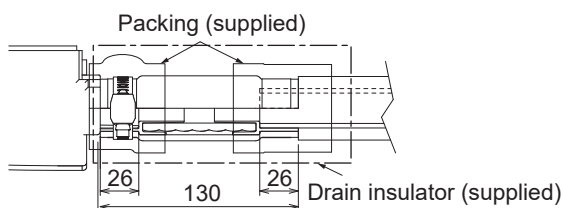
- Do not use adhesive tape at the drain connection port on the indoor unit.
- Insert the drain pipe until it contacts the socket, and then secure it tightly with the hose band.
- Do not use the supplied drain hose bent at a 90° angle. (The maximum permissible bend is 45°.)
- Tighten the hose clamps so their locking nuts face upward.

### (2) Installing the drain hose

- First insert the drain hose (supplied) to the hose band (supplied) and then install the drain hose to the unit drain port.
  - Insert until the drain hose bumps to the end.
  - Hose band screw torque is 30 - 35 N · cm.
  - Connect both the drain hose and PVC pipe (VP20 or similar material, not supplied).
- Insert until the PVC pipe bumps to the end and adhere with PVC adhesive.



- (3) After connecting the drain pipe securely, wrap the supplied packing and drain pipe insulator around the pipe, then secure it with the clampers.



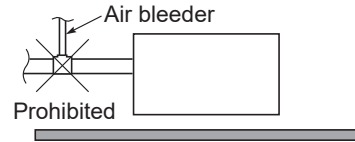
## Horizontal Installation

### NOTE

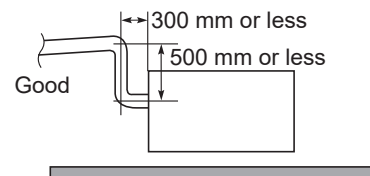
Make sure the drain pipe has a downward gradient (1/100 or more) and that there are no water traps.

### ⚠ CAUTION

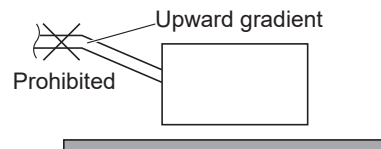
- Do not install an air bleeder as this may cause water to spray from the drain pipe outlet.



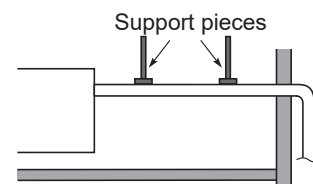
- If it is necessary to increase the height of the drain pipe, the section directly after the connection port can be raised a maximum of 500 mm. Do not raise it any higher than 500 mm, as this could result in water leaks.



- Do not install the pipe with an upward gradient from the connection port. This will cause the drain water to flow backward and leak when the unit is not operating.

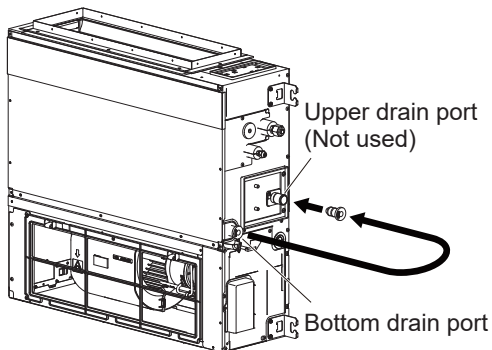


- Do not apply force to the piping on the unit side when connecting the drain pipe. The pipe should not be allowed to hang unsupported from its connection to the unit. Fasten the pipe to a wall, frame, or other support as close to the unit as possible.

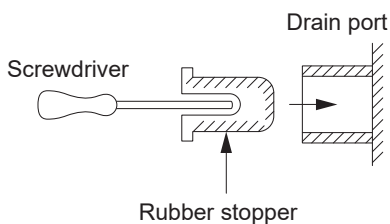


### Vertical Installation

- Replace with the drain cap

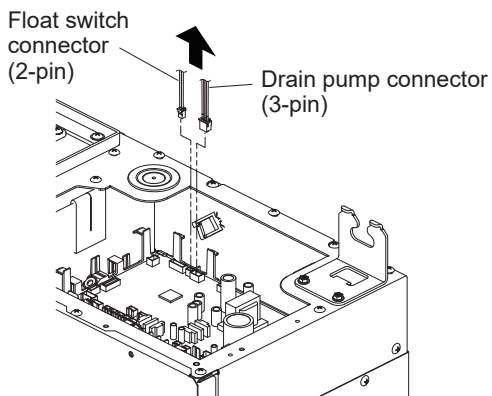


The rubber stopper can be inserted easily by using a screwdriver or similar tool to push the stopper into the drain port on the main unit. Push the rubber stopper into the main unit's drain port until it reaches the end-stop.



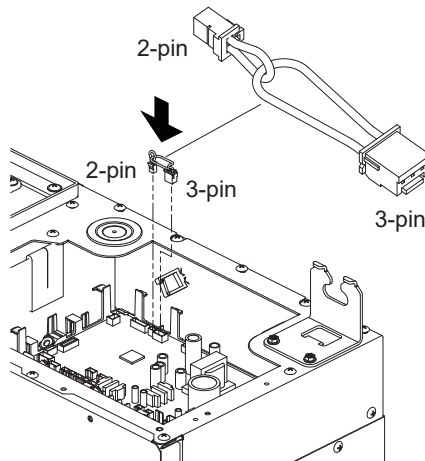
- Replace with the connector

When installing the unit vertically, disconnect the connectors of the drain pump (3-pin) and the float switch (2-pin) from the PCB.



Insert the connectors to the place where the supplied short-circuit connection was removed.

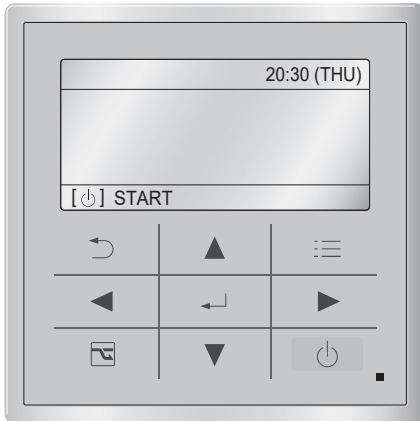
Short-circuit connection (Accessories)



- \* Pay attention to the type of connector.
- After switching on the power, invalidate the drain pump and change the heating intake temperature by setting the remote controller. (For details, see next page.)

## How to make drain pump ineffective and changing heating intake temperature

### Operating the High-spec Wired Remote Controller (CZ-RTC5B)



After completing the address setting under the Section "8. TEST RUN", carry out the following procedure.

1. Keep pressing the , and buttons simultaneously for 4 or more seconds.  
The "Maintenance func" screen appears on the LCD display.

Maintenance func		20:30 (THU)
1. Outdoor unit error data		
2. Service contact		
3. RC setting mode		
4. Test run		
Sel. ◀ ▶ Page [↵] Confirm		

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.

Maintenance func		20:30 (THU)
5. Sensor info.		
6. Servicing check		
7. Simple settings		
8. Detailed settings		
Sel. ◀ ▶ Page [↵] Confirm		

The "Detailed settings" screen appears on the LCD display.

Select the "Unit no." by pressing the or button for changes.

Detailed settings		20:30 (THU)
Unit no.	Code no.	Set data
1-1	10	0005
Sel. ◀ ▶ Next		

3. Select the "Code no." by pressing the or button.  
Change the "Code no." to "3F" by pressing the or button (or keeping it pressed).

Detailed settings		20:30 (THU)
Unit no.	Code no.	Set data
1-1	3F	0007
Sel. ◀ ▶ Next		

4. Select the "Set data" by pressing the or button.  
("0007" or "0000" set at shipment) Change the Setting Data "0001" by pressing the or button.  
Then press the button.
5. Select the "Code no." by pressing the or button.  
Change the "Code no." to "06" by pressing the or button (or keeping it pressed).

Detailed settings		20:30 (THU)
Unit no.	Code no.	Set data
1-1	06	0004
Sel. ◀ ▶ Next		

6. Select the "Set data" by pressing the or button. ("0004" set at shipment)  
Change the Setting Data "0000" by pressing the or button.  
Then press the button.
7. Select the "Unit no." by pressing the or button and press the button.  
The "Exit detailed settings and restart?" (Detailed setting-end) screen appears on the LCD display.  
Select "YES" and press the button.
















Detailed settings		20:30 (THU)
Exit detailed settings and restart?		
YES ▶ NO		
Sel. ◀ ▶ Next		

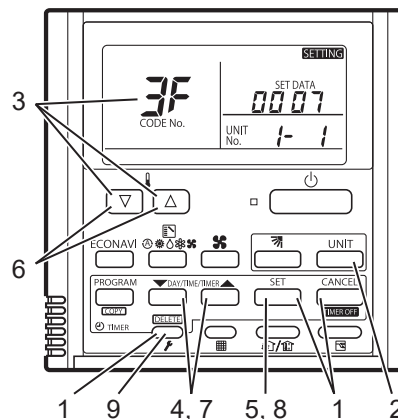


## Operating the Timer Remote Controller

### (CZ-RTC4)

#### Setting Item Code “3F” and “06”

- Press and hold down the ,  and  buttons simultaneously for 4 or more seconds.  
(**SETTING**, the Unit No., Item Code and Detailed Data will blink on the LCD display.)
- The indoor unit numbers in the group control will be sequentially displayed whenever the Unit Select button is pressed .  
Only the fan motor for the selected indoor unit will operate during this time.
- Specify the “3F” item code by pressing the  /  buttons for the temperature setting buttons and confirm the values.  
 (“0007” or “0000” set at shipment)
- Press the  /  buttons for the time to amend the values for the set data. Select “0007”.
- Press the  button.  
The display will stop blinking and remain illuminated.
- Specify the “06” item code by pressing the  /  buttons for the temperature setting buttons and confirm the values. (“0004” set at shipment)
- Press the  /  buttons for the time to amend the values for the set data.  
Select “0000”.
- Press the  button.  
The display will stop blinking and remain illuminated.
- Press the  button to return to normal remote controller display.



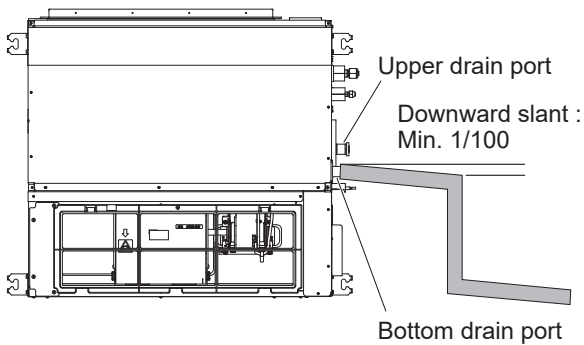
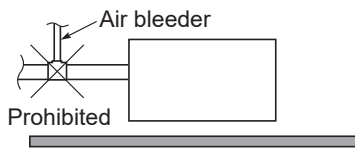
\*Failure to make this setting may cause malfunction of the drain pump.

**NOTE**

Make sure the drain pipe has a downward gradient (1/100 or more) and that there are no water traps.

**CAUTION**

- Do not install an air bleeder as this may cause water to spray from the drain pipe outlet.



## (1) Drain hose connection

- The drain hose is connected below the refrigerant tubing.

## (2) Installing the drain hose

- First insert the drain hose (supplied) to the hose band (supplied) and then install the drain hose to the unit drain port.
- Insert until the drain hose bumps to the end.
- Attach the hose band to make the fixed portion 45 degrees upper gradient according to a vinyl tape (not supplied) of the drain hose (supplied).
- Hose band screw torque is 30 - 35 N · cm.
- Wind the vinyl tape not to blow up the hose band.
- Connect both the drain hose and PVC pipe (VP20 or similar material, not supplied). Insert until the PVC pipe bumps to the end and adhere with PVC adhesive.

**CAUTION**

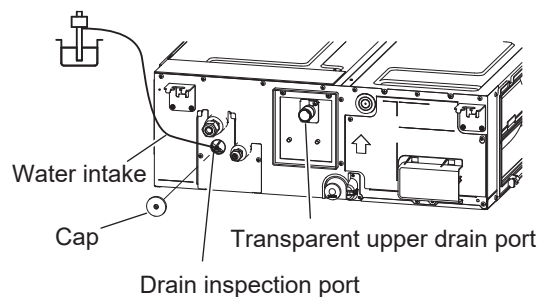
- Wrap the drain insulator (supplied) between the connection of the drain hose and tubing not to expose the copper tubing. Also, wrap the hose band together. Wrap the hose band with the drain insulator, where the screw is located facing upward. Then, tighten the insulator with a vinyl tape not to cause the detachment. If the tubing parts remain exposed, condensation may occur.
- Be sure to use the supplied drain hose. If other commercially available hose bands are used, the drain hose may become pinched or wrinkled and there is danger of water leakage. Therefore be sure to use the supplied hose bands.
- Connect the drain pipe so that it slopes downward from the unit to the outside.

- Never allow water traps to occur in the course of the piping.
- Insulate any piping inside the room to prevent dripping.
- After the drain piping, pour an appropriate amount of water into the drain pan through the opening on the side of the air discharge port. Check the water draining smoothly.

**Checking the Drainage****Horizontal Installation Only**

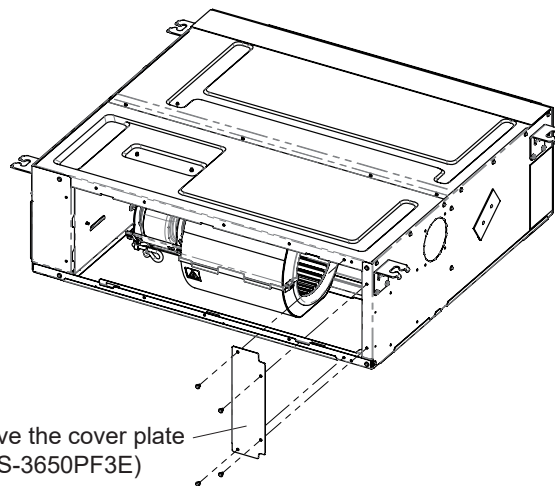
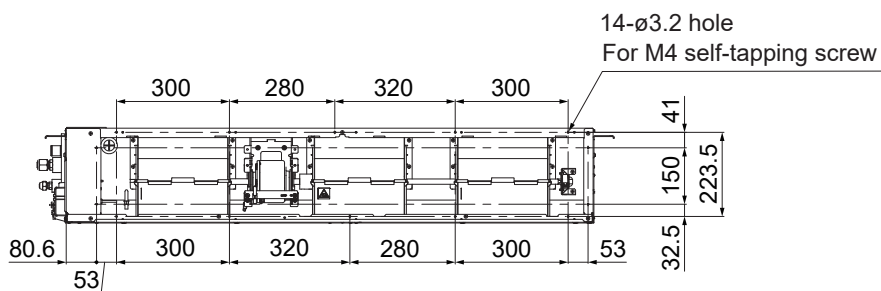
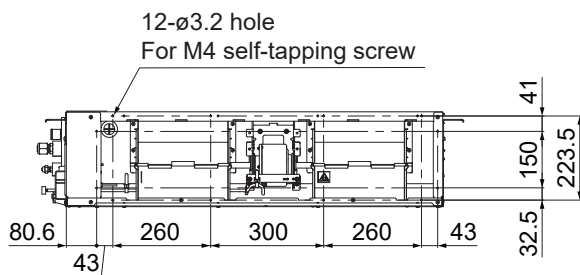
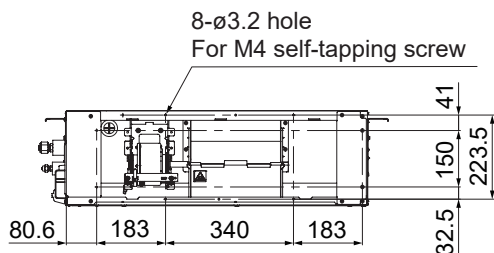
After wiring and drain piping are completed, use the following procedure to check that the water will drain smoothly. For this, prepare a bucket and wiping cloth to catch and wipe up spilled water.

- (1) Connect power to the power terminal board (L/1, N/2 terminals) inside the electrical component box.
- (2) Remove the tube cover and slowly pour about 1,200 cc of water through the opening into the drain pan to check drainage.
- (3) Short the check pin (CHK) (6P : 1-4) on the indoor unit control PCB and operate the drain pump. Check the water flow through the transparent upper drain port and see if there is any leakage.
  - \* If the check pin (CHK) (6P : 1-4) is shorted, the fan starts rotating at high speed and could cause injury.
- (4) When the drainage check is complete, open the check pin (CHK) (6P : 1-4) and remount the insulator and the cap onto the drain inspection port.



## Connecting Duct to Air Intake Port Side

- (1) Install the duct (field supply).  
See the figure for the dimension of the installation hole.  
Use M4 self-tapping screws for installation.



Unit: mm

### NOTE

To get clean air and to extend the service life of the air conditioner, an air filter must be installed in the air intake.  
For installation and cleaning the air filter, consult your dealer or service center.

## EXTERNAL STATIC PRESSURE SETTING

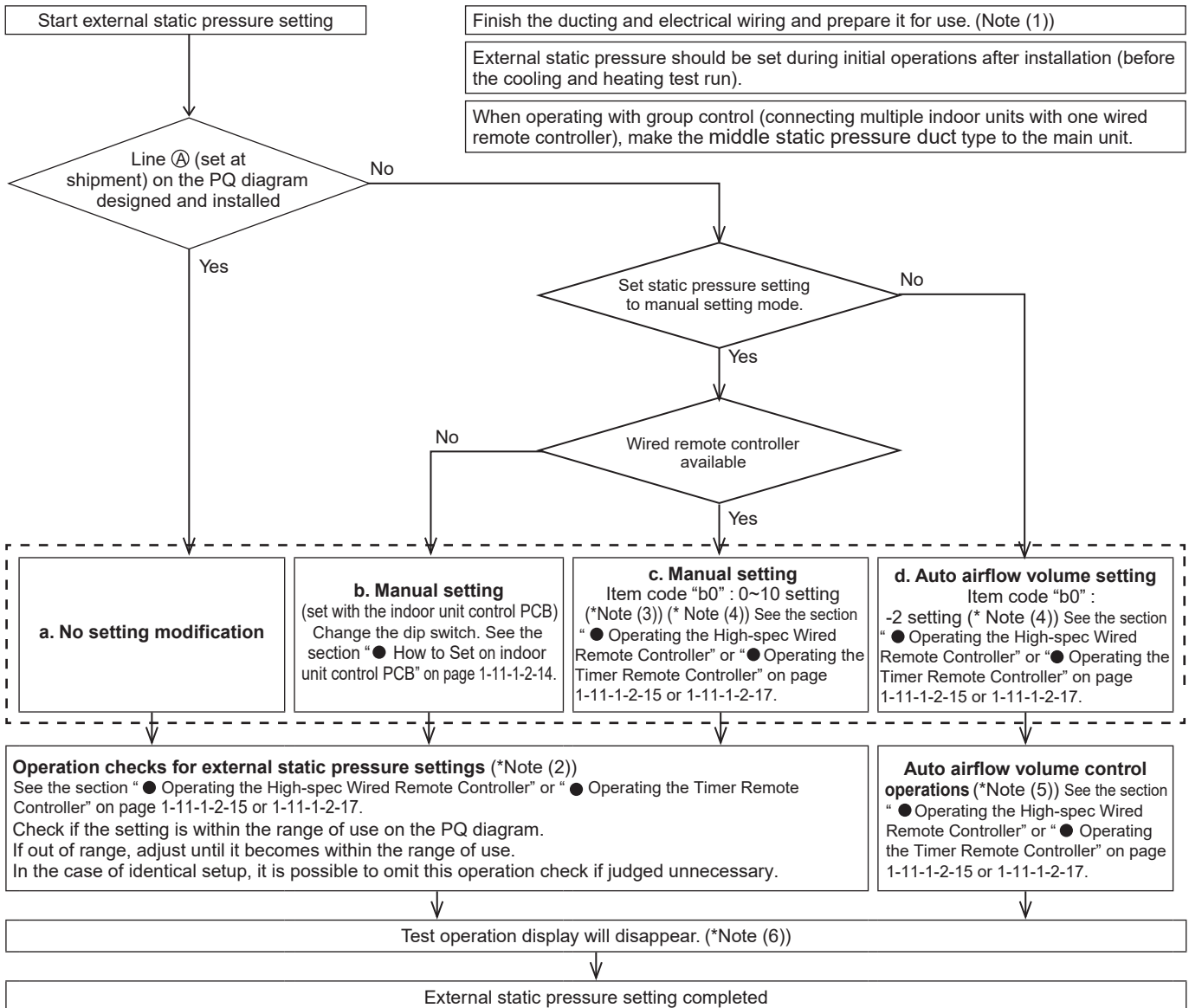
For middle static pressure duct type indoor units, the ventilating resistance so-called "external static pressure" becomes greatly different depending on the connected duct length, shape, number of air outlet ports and types of filters.

When installing this unit, be sure to carry out the external static pressure setting in order to operate in the rated airflow volume.

Choose one of the following methods from "a", "b", "c" or "d" as shown in the flow chart (within the dotted lines) and then make the setting accordingly.

- a. No setting modification..... : Use-as-is at shipment (there are cases in which the setting may differ from the shipment setting when reset after once setting the external static pressure.)
- b. Manual setting (set with the indoor unit control PCB.....) : For high static pressure. Switching method with the short-circuit connector.
- c. Manual setting (set with the wired remote controller) ..... : Low static pressure ~ high static pressure
- d. Auto airflow volume setting (set on the wired remote controller)..... : Air outlet volume is automatically adjusted to the rated airflow volume with the auto airflow control drive.

### Flow of External Static Pressure



### NOTE

- (1) Check the following items before performing the setting-check operations or auto airflow volume operations.
- 1) Check to make sure that the electrical wiring and ducting have been completed. Activate the stand-by mode. In particular, make sure that the closed damper located in the middle of the duct is open, if installed. Also, make sure that air filters have been installed inside the air inlet duct.  
Check to make sure air is not leaking from the joints.
  - 2) If multiple air outlets and air inlets are included, adjust the airflow volume ratio of all of them until they meet the design airflow ratio.
  - 3) Make sure the address setting has been completed.
- (2) The operation check will be completed in approximately three minutes if the settings have been made correctly. The settings will be modified if they are out of the range of use (maximum 30 minutes).  
If this is not completed within 31 minutes, check whether the air speed is set to "H" or not.

- (3) See Table 1-11-1-2-2, 1-11-1-2-3 and Fig. 1-11-1-2-2 for details on the relationship between the value of item code “b0” and the external static pressure.
- (4) When set in group control (connecting multiple indoor units with one wired remote controller), set each indoor unit to item code “b0”. When amending the setting after selecting [b. Manual setting] (due to airflow path changes, etc.), it is necessary to cancel [b. Manual setting] (change the dip switch). When [b. Manual setting] has not been cancelled, [c. Manual setting] and [d. Auto airflow volume setting] will be activated if selected, but [b. Manual setting] takes precedence when the power is switched back on after power outages, etc.
- (5) If this is not completed within 8 minutes, check the operation mode, air speed and air inlet temperature.
- (6) When set in group control (connecting multiple indoor units with one wired remote controller), the test run operations display will disappear once the external static pressure setting check or auto airflow volume control operation check have been completed for the main unit. However, it is not possible to determine whether sub-units have completed. The test run operation display will disappear after one hour even if the external static pressure setting check or auto airflow volume control operation check have not been completed.

**CAUTION**

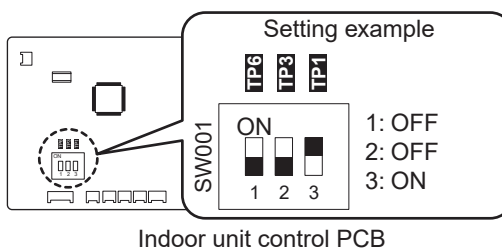
- Be sure to check that the external static pressure is within the range for use and then make the setting. Failure to observe this may result in insufficient airflow or water leakages. See Fig. 1-11-1-2-2 for the external static pressure setting range.
- There are cases in which automatic variable dampers and other mounted items may trigger the P12 alarm on systems that modify the external static pressure when the auto airflow volume control operations or setting check operations are carried out if high external static pressure is lowered. In this event, lower the dampers, etc., so that the external static pressure reaches its lowest level, and then carry out the auto airflow volume control operations or setting check operations.
- Be sure to set the [External Static Pressure Setting] once again after amending the airflow path for the duct or air outlet after setting the external static pressure.
- Set the air inlet temperature within the range for use. The auto airflow volume control will not function if the air inlet temperature is over 45°C or if operation is other than fan mode.

**● How to Set on Indoor Unit Control PCB**

1. Turn off the power breaker to halt the supply of electricity to the indoor unit control PCB.
2. Open the electrical component box cover, then check the indoor unit control PCB. (Fig. 1-11-1-2-1)
3. Change the dip switch (SW001) of the indoor unit control PCB according to the setting selected in Table 1-11-1-2-1.

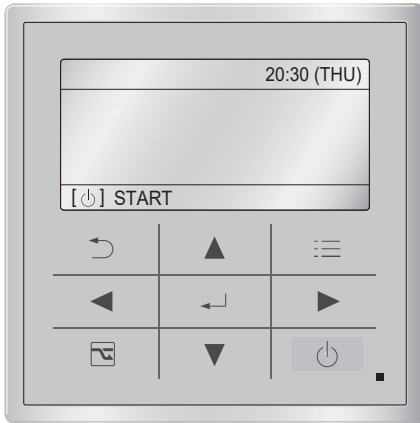
**Table 1-11-1-2-1**

External static pressure at the time of rated airflow volume	DIP switch
110 Pa	
50 Pa	
10 Pa	



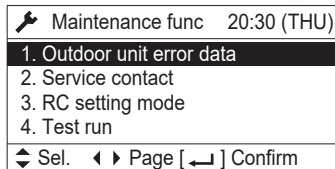
**Fig. 1-11-1-2-1**

## ● Operating the High-spec Wired Remote Controller (CZ-RTC5B)

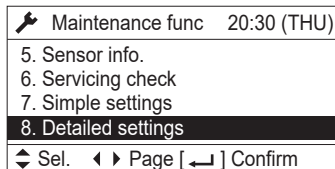


### How to set the external static pressure

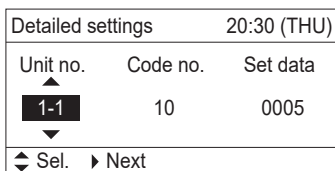
- Keep pressing the , and buttons simultaneously for 4 or more seconds.  
The "Maintenance func" screen appears on the LCD display.



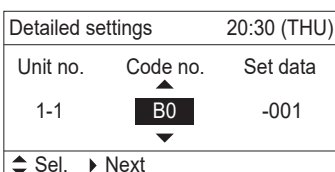
- Press the or button to see each menu.  
If you wish to see the next screen instantly, press the or button.  
Select "8. Detailed settings" on the LCD display and press the button.



The "Detailed settings" screen appears on the LCD display.  
Select the "Unit no." by pressing the or button for changes.



- Select the "Code no." by pressing the or button.  
Change the "Code no." to "B0" by pressing the or button (or keeping it pressed).



- Select the "Set data" by pressing the or button.  
Select one of the "Set data" among "0001" – "0010" according to the desired external static pressure setting by pressing the or button.  
Then press the button.  
(See the table below.)

#### When setting to auto airflow volume control:

Select the setting data to "-002".  
Then press the button.

Table 1-11-1-2-2 Setting the external static pressure

Indoor unit type		Item code
3650	6071	
Outdoor unit type		
-		
External static pressure of the rated airflow volume (Pa)		
150		0010
140		0009
130		0008
120		0007
110		0006
90		0005
70		0004
50		0003
30 *		0002
10		0001
No auto airflow volume setting		-001
Auto airflow volume setting		-002

#### \* Setting at shipment

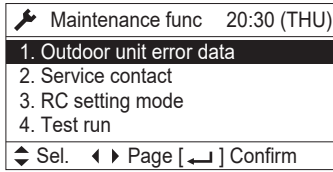
- Select the "Unit no." by pressing the or button and press the button.  
The "Exit detailed settings and restart?" (Detailed setting-end) screen appears on the LCD display.  
Select "YES" and press the button.  
When the setting is completed, perform the test run for the external static pressure setting described in "Auto External Static Pressure Setting Operation".



### Auto External Static Pressure Setting Operation

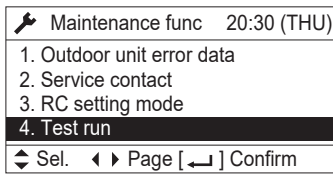
6. Keep pressing the , and buttons simultaneously for 4 or more seconds.

The “Maintenance func” screen appears on the LCD display.

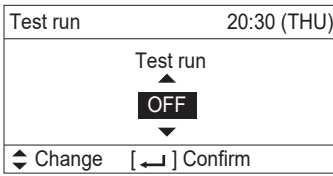


7. Press the or button to see each menu. If you wish to see the next screen instantly, press the or button.

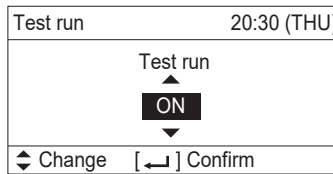
Select “4. Test run” on the LCD display and press the button.



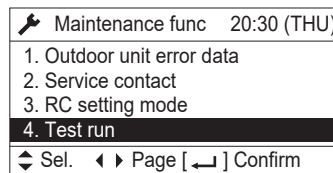
The “Test run” screen appears on the LCD display.



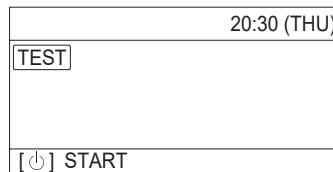
Change the display from OFF to ON by pressing the or button. Then press the button.



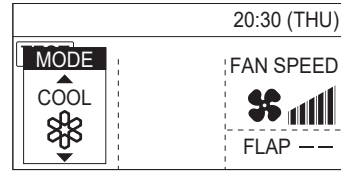
The “Maintenance func” screen appears on the LCD display.



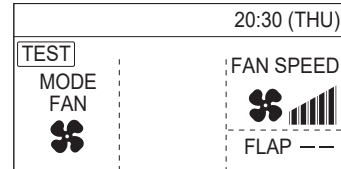
8. Press the button. “TEST” will be displayed on the LCD display.



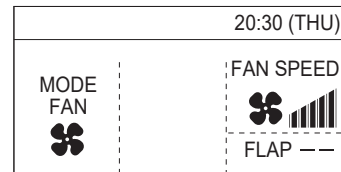
9. Press the button. Test run will be started. Test run setting mode screen appears on the LCD display.



10. Set the operation mode to “ (MODE FAN)” and fan speed mode to “ (FAN SPEED)” by pressing the or button or or button. Then press the button.



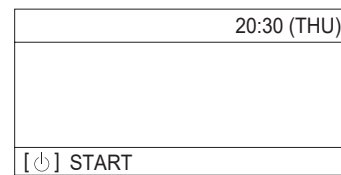
The fan motor will be activated, the auto external static pressure setting operation and setting-check operation will be performed for about 3 to 30 minutes. The fan speed will change automatically while these operations are in progress. When these operations completed, “TEST” will be disappeared from the LCD display.



**NOTE:**

The auto external static pressure setting operation and setting-check operation will not be performed unless “ (MODE FAN)” and “ (FAN SPEED)” have been selected.

11. Press the button. The LCD display will be returned to the initial screen.



**NOTE:**

Failure to set this parameter may result in decreased airflow and condensation.

● Operating the Timer Remote Controller (CZ-RTC4)

Setting Item Code “60”

- Press and hold down the , and buttons simultaneously for 4 or more seconds.  
( **SETTING**, the Unit No., Item Code and Detailed Data will blink on the LCD display.)
- The indoor unit numbers in the group control will be sequentially displayed whenever the Unit Select button is pressed .  
Only the fan motor for the selected indoor unit will operate during this time.
- Specify the “60” item code by pressing the / buttons for the temperature setting buttons and confirm the values.  
(“-001” set at shipment )
- Press the buttons for the time to amend the values for the set data.  
See Table 1-11-1-2-3 and Fig. 1-11-1-2-2 and select a value between “0001” and “0010”.  
Select “-002” if the auto airflow volume setting is activated.
- Press the button.  
The display will stop blinking and remain illuminated.
- Press the button. The fan motor will stop operating and the LCD display will return to the normal stop mode.

Auto Airflow Volume Control Operations and External Static Pressure Setting-Check Operation

- Press and hold down the button for 4 or more seconds.  
“TEST” will be displayed on the LCD display.
- Press the button to start the test run.
- Select the operation mode (Fan) by pressing the (Mode select) button.  
Then select the fan speed by pressing the (Fan speed) button.

**NOTE**

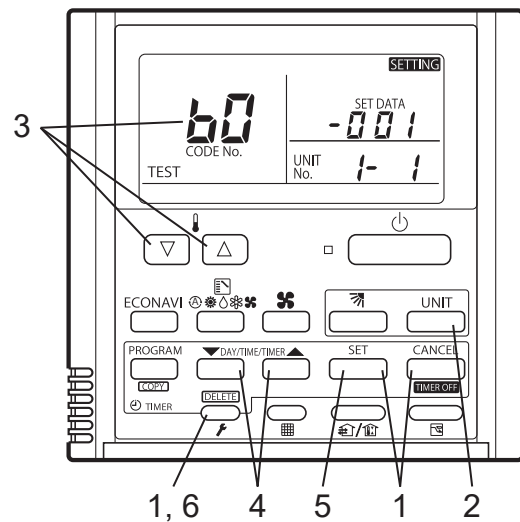
Auto airflow volume control operations and external static pressure setting-check operations will not be performed unless the above settings are made.

- The fan motor will be activated and auto airflow volume control operations or external static pressure setting-check operations will be started.  
The power of the airflow will change while these operations are in progress.  
The external static pressure setting-check operations and auto airflow volume control operations will be completed in about 3 to 30 minutes.  
“TEST” display will be disappeared from the LCD display.
- Press the button to halt the test run.

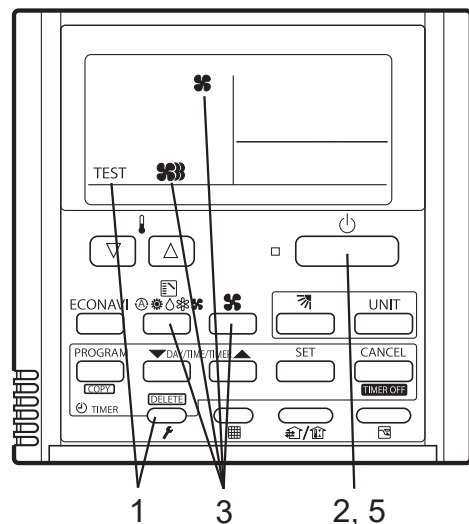
Table 1-11-1-2-3 Setting the external static pressure

Indoor unit type		Item code
3650	6071	
Outdoor unit type		60
-		
External static pressure of the rated airflow volume (Pa)		
150		00 10
140		00 09
130		00 08
120		00 07
110		00 06
90		00 05
70		00 04
50		00 03
30 *		00 02
10		00 01
No auto airflow volume setting		-001
Auto airflow volume setting		-002

\* Setting at shipment

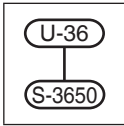


\*Failure to set this parameter may result in decreased airflow and condensation.





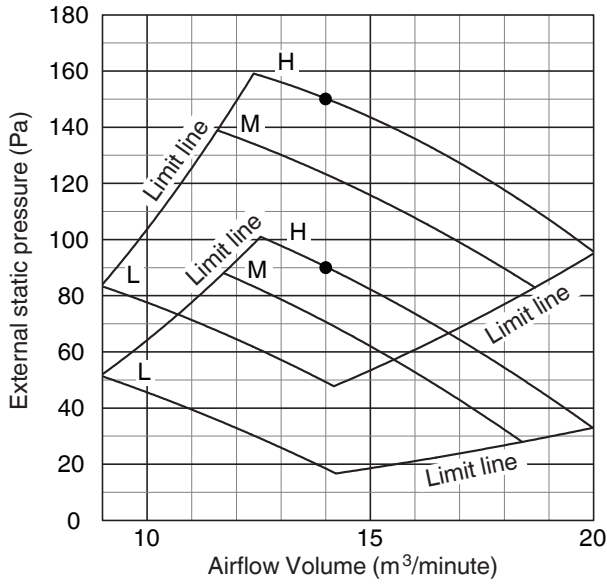
Indoor Units Type 3650 (36)



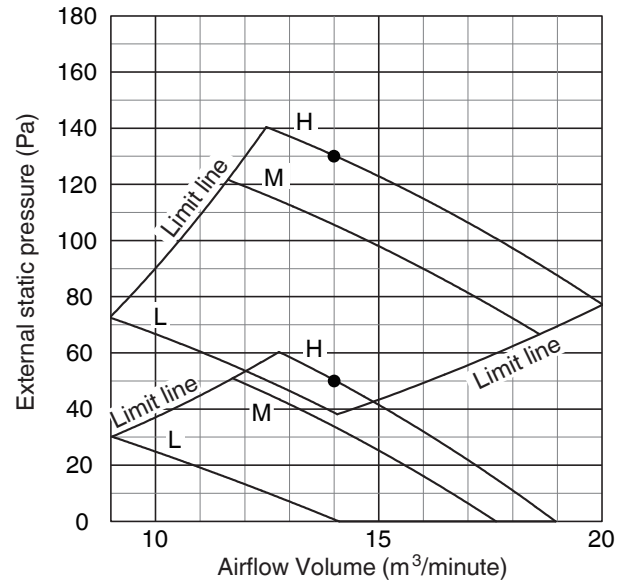
Indoor Fan Performance

PQ diagram (Fig. 1-11-1-2-2)

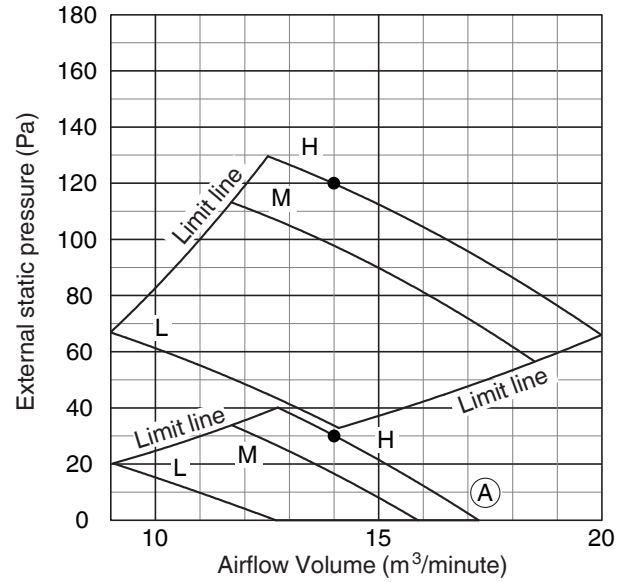
External static pressure 150Pa, 90Pa



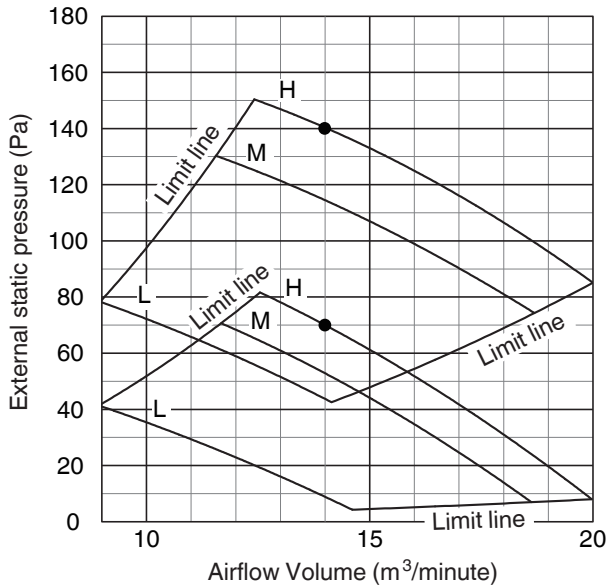
External static pressure 130Pa, 50Pa



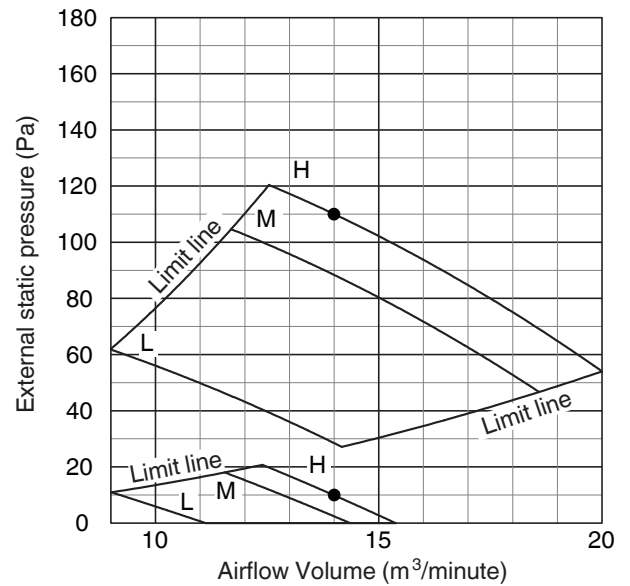
External static pressure 120Pa, 30Pa



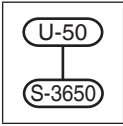
External static pressure 140Pa, 70Pa



External static pressure 110Pa, 10Pa



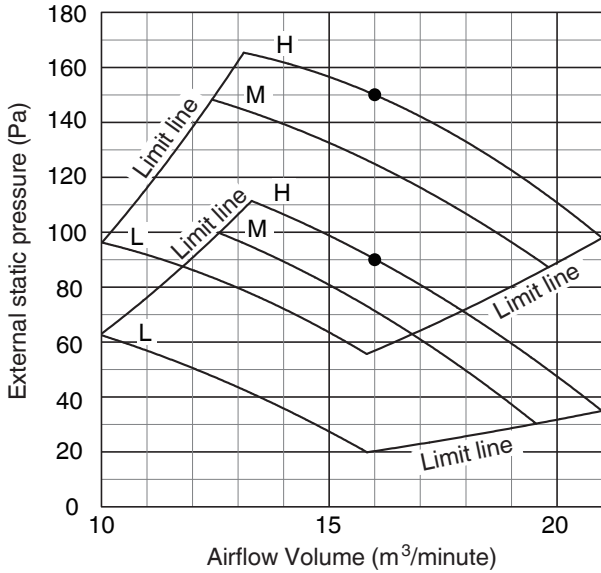
Indoor Units Type 3650 (50)



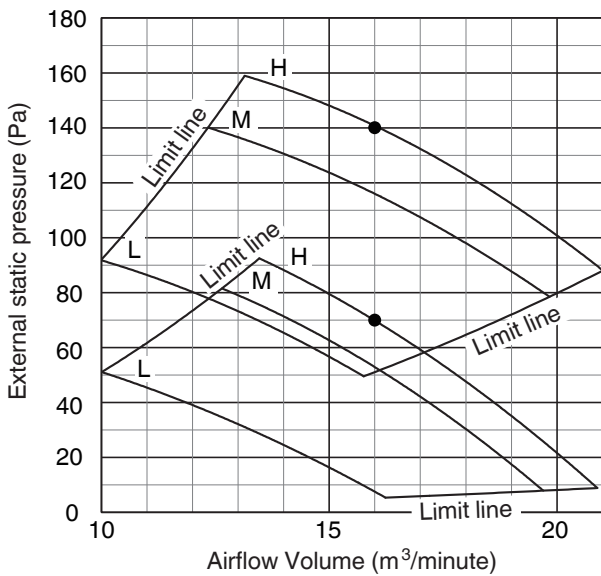
Indoor Fan Performance

PQ diagram (Fig. 1-11-1-2-2)

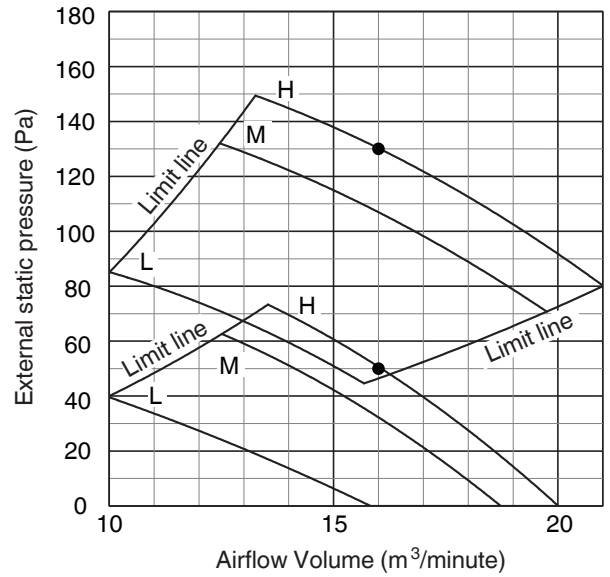
External static pressure 150Pa, 90Pa



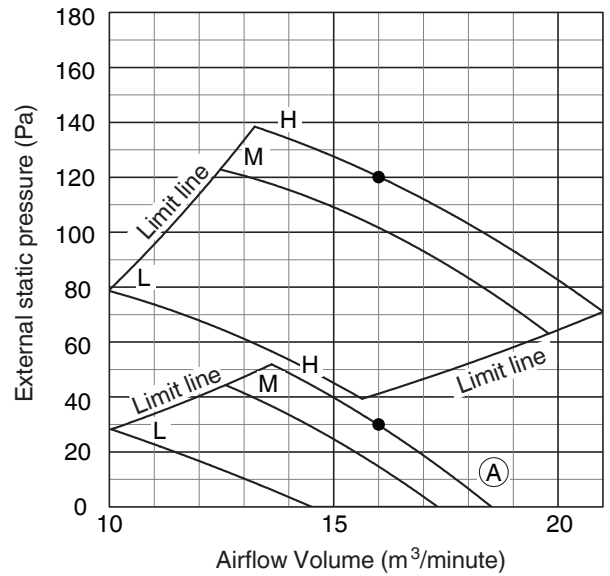
External static pressure 140Pa, 70Pa



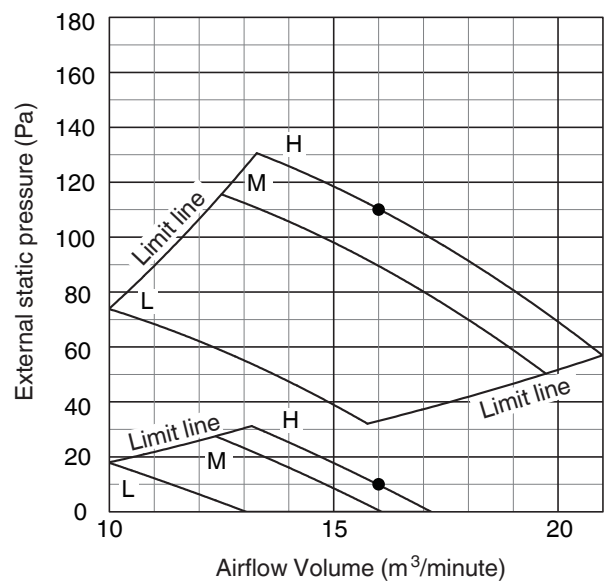
External static pressure 130Pa, 50Pa



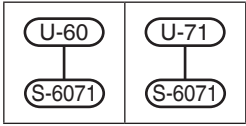
External static pressure 120Pa, 30Pa



External static pressure 110Pa, 10Pa



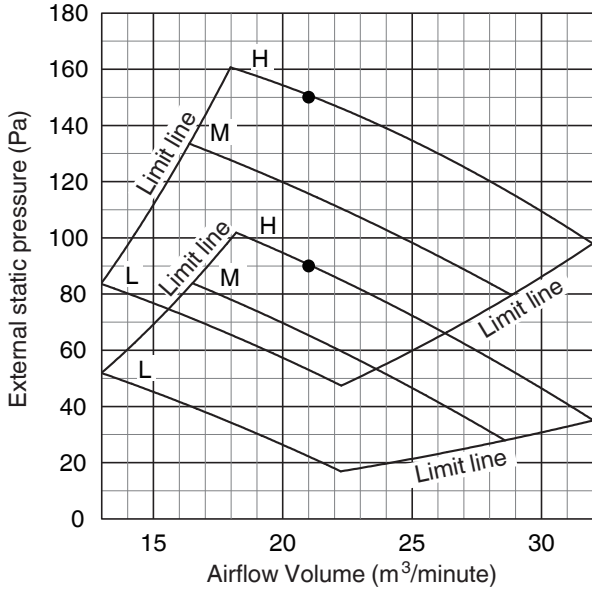
**Indoor Units Type 6071 (60, 71)**



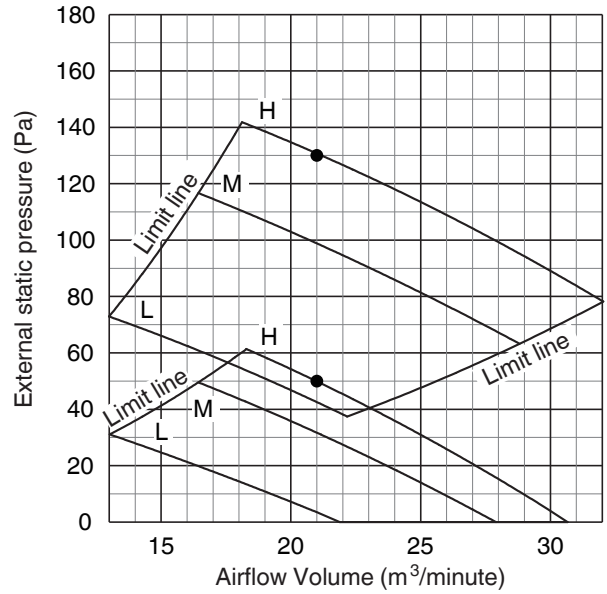
**Indoor Fan Performance**

**PQ diagram (Fig. 1-11-1-2-2)**

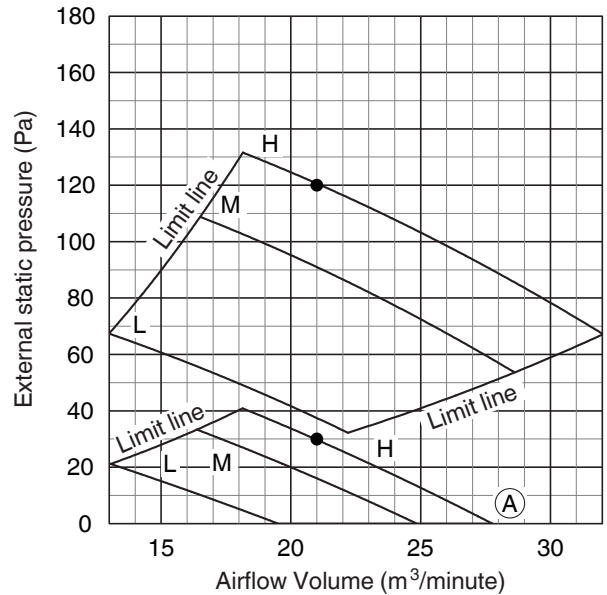
External static pressure 150Pa, 90Pa



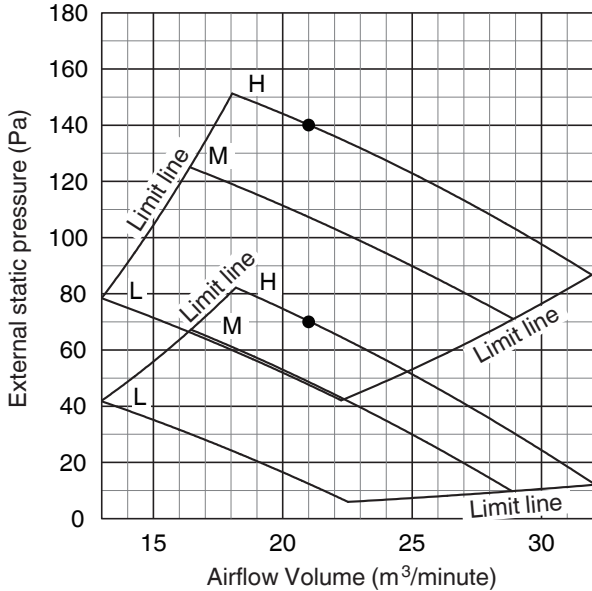
External static pressure 130Pa, 50Pa



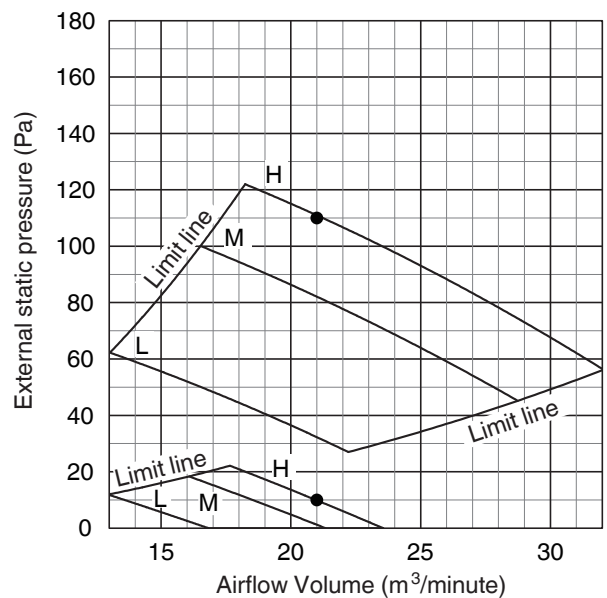
External static pressure 120Pa, 30Pa



External static pressure 140Pa, 70Pa



External static pressure 110Pa, 10Pa

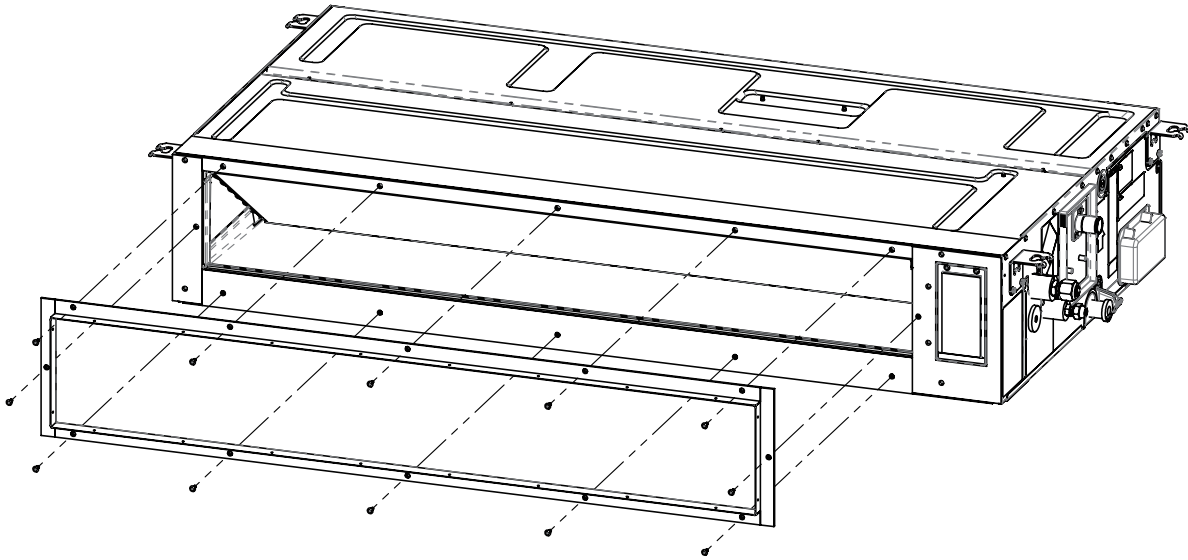


## ■ Optional Duct Frange

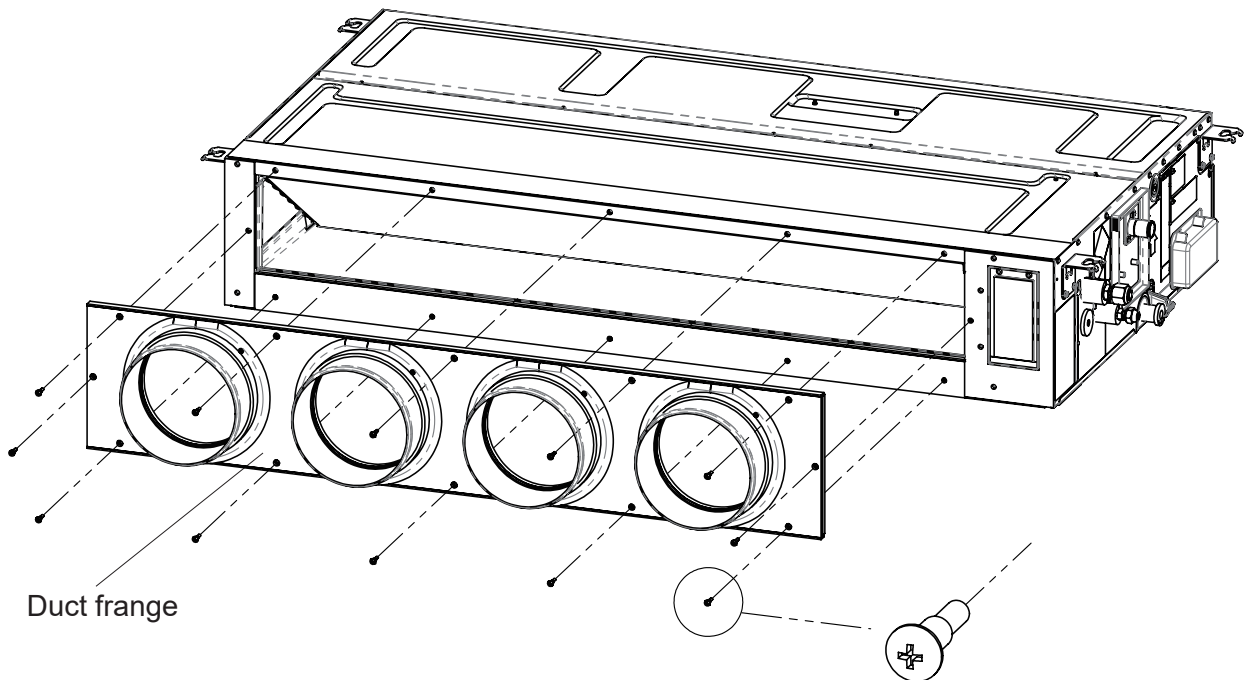
### How to Install Duct Frange

- 3 circle duct frange (CZ-90DAF2)
- 2 circle duct frange (CZ-56DAF2)

1. Remove the air outlet duct frange.

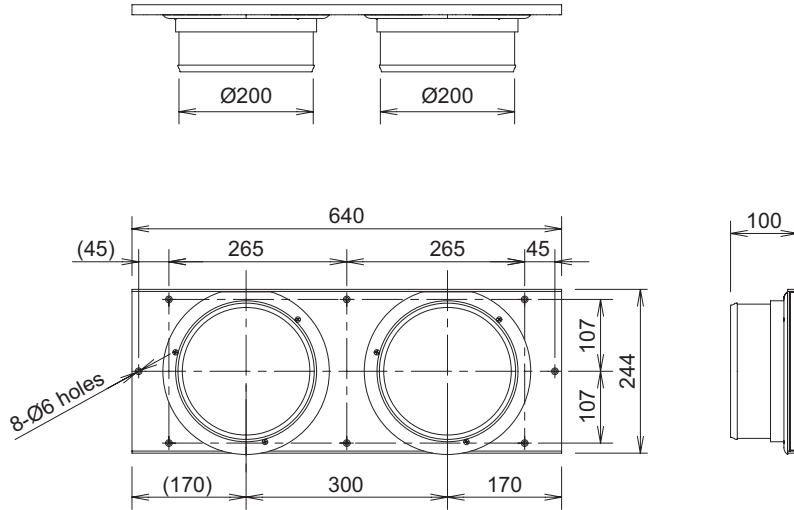


2. Attach the duct frange to the side of the unit with the supplied screws.



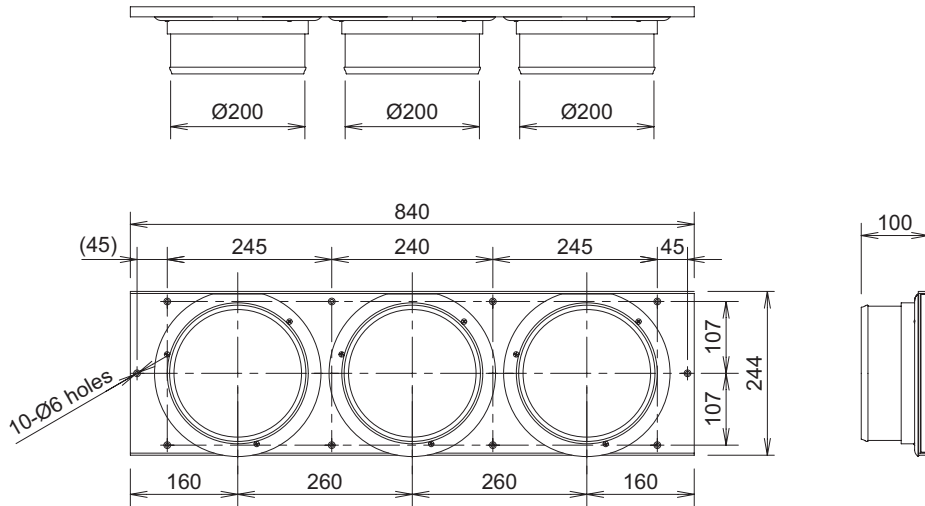
**Dimensional Diagram : CZ-56DAF2**

unit: mm



**Dimensional Diagram : CZ-90DAF2**

unit: mm



## HOW TO PROCESS TUBING

Must ensure mechanical connections be accessible for maintenance purposes.

### Connecting the Refrigerant Tubing

#### NOTE

When connecting flare at indoor side, make sure that the flare connection is used only once. If torqued up and released, the flare must be remade. Once the flare connection was torqued up correctly and leak test was made, thoroughly clean and dry the surface to remove oil, dirt and grease by following instructions of silicone sealant. Apply neutral cure & ammonia-free silicone sealant that is non-corrosive to copper & brass to the external of the flared connection to prevent the ingress of moisture on both the gas & liquid sides. (Moisture may cause freezing and premature failure of the connection.)

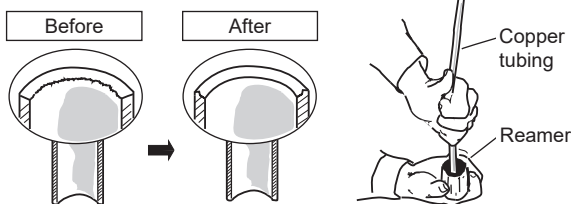
#### Use of the Flaring Method

Many of conventional split system air conditioners employ the flaring method to connect refrigerant tubes that 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. 30 – 50 cm longer than the tubing length you estimate.
- (2) Remove burrs at each end of the copper tubing with a tube reamer or a similar tool. This process is important and should be done carefully to make a good flare. Be sure to keep any contaminants (moisture, dirt, metal filings, etc.) from entering the tubing.

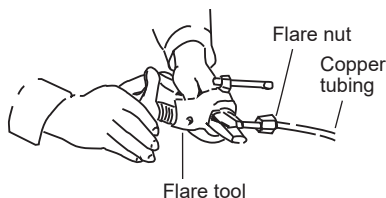
#### Deburring



#### NOTE

When reaming, hold the tube end downward and be sure that no copper scraps fall into the tube.

- (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.



#### NOTE

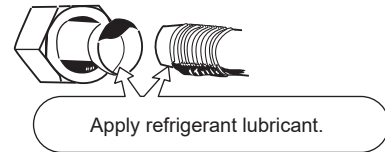
When flared joints are reused, the flare part shall be re-fabricated.

A good flare should have the following characteristics:

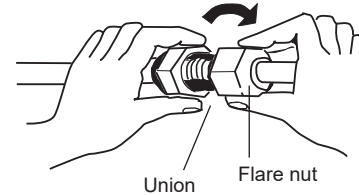
- inside surface is glossy and smooth
- edge is smooth
- tapered sides are of uniform length

#### 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 (ether oil) to the inside of the flare nut before making piping connections. This is effective for reducing gas leaks.



- (3) For proper connection, align the union tube and flare tube straight with each other, then screw on the flare nut lightly at first to obtain a smooth match.



- 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.

## ● 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

Unit : mm

Indoor unit type	S-3650PF3E	S-6071PF3E
Gas tube	ø12.7	ø15.88
Liquid tube	ø6.35	ø9.52

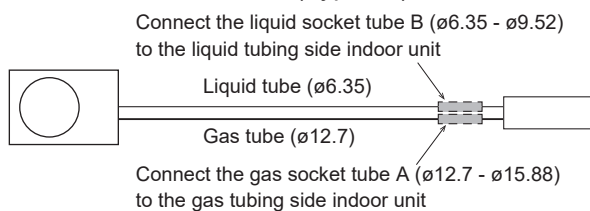
Different-diameter-tube joint for the indoor unit tubing connection part is supplied with S-6071PF3E.

The size of parenthesis indicates the connection tube diameter when using the different-diameter-tube joint.

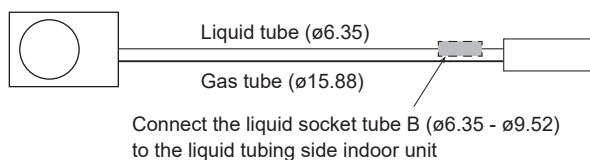
### How to use different-diameter-tube joint (supplied)

1) When using with single connection

#### • Outdoor PZ3 series (Type 60)

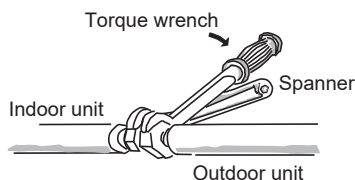


#### • Outdoor PZ3 series (Type 71)



(2) To fasten the flare nuts, apply specified torque.

- When removing the flare nuts from the tubing connections, or when tightening them after connecting the tubing, be sure to use two spanners. When tightening the flare nuts, use a torque wrench. 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, R32 (type 2). The refrigerant tubing that is used must be of the correct wall thickness as shown in the table below.

Tube diameter	Tightening torque (approximate)	Tube thickness
ø6.35 (1/4")	14 – 18 N · m {140 – 180 kgf · cm}	0.8 mm
ø9.52 (3/8")	34 – 42 N · m {340 – 420 kgf · cm}	0.8 mm
ø12.7 (1/2")	49 – 55 N · m {490 – 550 kgf · cm}	0.8 mm
ø15.88 (5/8")	68 – 82 N · m {680 – 820 kgf · cm}	1.0 mm

Because the pressure is approximately 1.6 times higher than conventional refrigerant R22 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.

- 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 200 mm.

## ● Insulating the Refrigerant Tubing

### Tubing Insulation

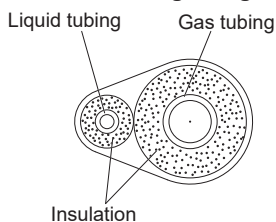
Must ensure that pipe-work shall be protected from physical damage.

- 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 120°C or above. For other tubing, it must be heat resistant to 80°C or above.

Insulation material thickness must be 10 mm or greater.

If the conditions inside the ceiling exceed DB 30°C and RH 70%, increase the thickness of the gas tubing insulation material by 1 step.

### Two tubes arranged together



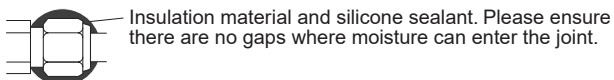
## ! CAUTION

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.

### Additional Precautions For R32 Models.

- Ensure to do the re-flaring of pipes before connecting to units to avoid leaking.

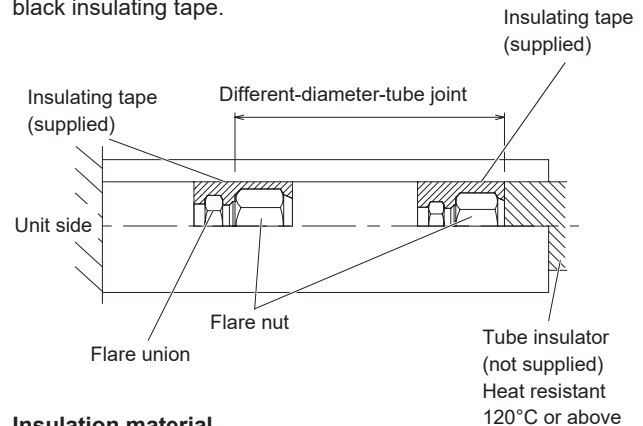
To prevent the ingress of moisture into the joint which could have the potential to freeze and then cause leakage, the joint must be sealed with suitable silicone and insulation material. The joint should be sealed on both liquid and gas side.



Silicone Sealant must be neutral cure and ammonia free. Use of silicon containing ammonia can lead to stress corrosion on the joint and cause leakage.

## Taping the flare nuts

Wind the white insulating 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 insulating tape.



## 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.

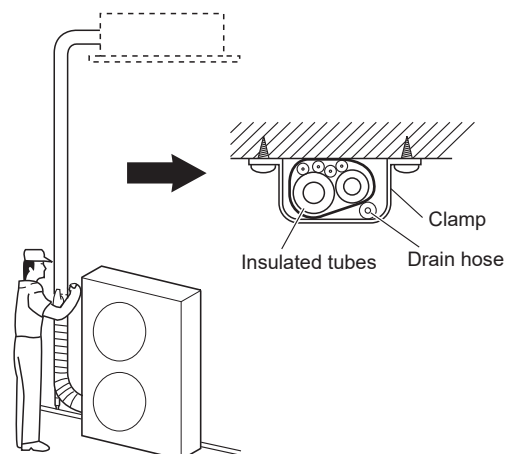
## ! CAUTION

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.

## ● Taping the Tubes

- 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.
- 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.
- Clamp the tubing bundle to the wall, using 1 clamp approx. each meter.



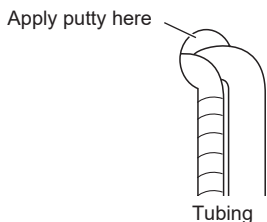
## NOTE

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.



● **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.



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

**NOTE**

See "Section 2. TEST RUN".

■ **HOW TO INSTALL WIRELESS REMOTE CONTROLLER (OPTIONAL PART)**

**NOTE**

See "Section 8. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER".

● **Accessories Supplied with Unit**

Table 1-11-1-2-4 (Middle Static Pressure Duct)

Part Name	Figure	Q'ty	Remarks
Washer		8	For suspending indoor unit from ceiling
Flare insulator		2	For gas and liquid tubes
Insulating tape		2	For gas and liquid tubes flare nuts
Drain insulator		1	For drain hose joint
Hose band		1	For securing drain hose
Packing		2	For drain hose joint (hard material)
Clamper		2	For drain hose joint
Drain hose		1	For main unit + PVC pipe joints
Clamper		2	For electrical wiring
Filter		*	When not connecting the air intake, be sure to install the filter.
Screw		*	

\* S-3650PF3E : 1 Q'ty  
S-6071PF3E : 2 Q'ty

Part Name	Figure	Q'ty	Remarks
Operating Instructions		1	
Installation Instructions		1	
Short-circuit connection		1	For vertical installation (Located on the back of the electrical component box lid.)

As for S-6071PF3E, the following accessories are additionally provided.

Part Name	Figure	Q'ty	Remarks
Different-diameter-tube joint		1	Gas socket tube A : $\varnothing 15.88 \rightarrow \varnothing 12.7$
		1	Liquid socket tube B : $\varnothing 9.52 \rightarrow \varnothing 6.35$
Insulating tape		2	For gas and liquid tube flare nuts

- Use M10 for suspension bolts.
- Field supply for suspension bolts and nuts.

● **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 8 mm.
3. Use insulated copper wire for field wiring. Wire size varies with the total length of wiring. See the section "1-10. Electrical Wiring" for details.

**CAUTION**

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

● **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

## ■ CHECKLIST AFTER INSTALLATION WORK

Work List	No.	Content	Check <input checked="" type="checkbox"/>	Possibility of Failure & Checkpoint
Installation	1	Are the indoor units installed following the content of the section "● SELECTING THE INSTALLATION SITE"?(on page 1-11-1-2-1)	<input type="checkbox"/>	There is a possibility of light injure or loss of property.
Tubing & Wiring				
	4	Is the earth leakage circuit breaker (all-pole switching function provided) installed?	<input type="checkbox"/>	Power failure or short circuit may cause electric shock or fire. Check installation work and ground wire work.
	5	Is there any wrong installation of optional parts or wrong wiring?	<input type="checkbox"/>	
	6	Was the ground wire work performed?	<input type="checkbox"/>	
	7	Are there any wrong power supply wiring, wrong connection wire, wrong signal wire or loose screw?	<input type="checkbox"/>	
	8	Is the thickness of wire in accordance with rule?	<input type="checkbox"/>	
	9	Is the power-supply voltage equal to the nameplate of the unit?	<input type="checkbox"/>	
	10	Was the check of the airtight test, flared tube fitting and gas leakage on the welded portion performed?	<input type="checkbox"/>	
Drain Check	11	Has the adhesive been applied to the drain connecting portion (resin portion) of the indoor unit?	<input type="checkbox"/>	The resin portion cracks after a few months and it may cause water drain.
	12	Is there water leakage?	<input type="checkbox"/>	Since there is a possibility of water drain, repair the drain pipe if the drain failure or water drain occurs.
	13	Indoor unit drain pipe has a downward gradient (1/100 or more) by rule. Is the drain water flowing smoothly?	<input type="checkbox"/>	
Heat Insulation	14	Was the heat insulation work at a suitable location including the flared tube fitting (refrigerant tube & drain pipe) performed properly?	<input type="checkbox"/>	The quality of unit not only becomes inferior but there is a possibility of the water drain. So, perform the heat insulation work properly.
Test Run	15	Did the abnormal sound occur?	<input type="checkbox"/>	Check if there is a fan contact or distortion of the indoor unit.
	16	Did the cool and warm airflow discharge from the indoor unit?	<input type="checkbox"/>	Check if the unit does not operate or there is a wrong tubing or wiring connection with another system.

■ 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**

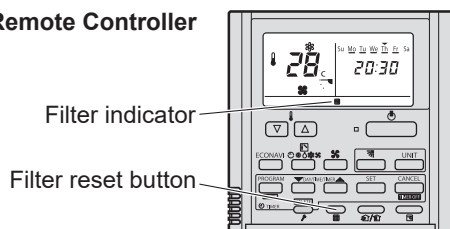
The air filter collects dust and other particles from the air and should be cleaned at regular intervals or when the filter indication (■) on the display of the remote controller (wired type) shows that the filter needs cleaning. If the filter gets blocked, the efficiency of the air conditioner drops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

Type	F3
Period	2 weeks

• **After Cleaning**

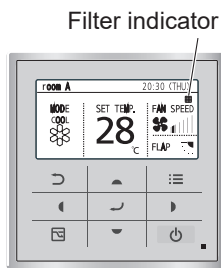
1. After the air filter is cleaned, reinstall it in its original position.  
Be sure to reinstall in reverse order.
2. [In the case of Timer Remote Controller]  
Press the Filter reset button.  
The ■ (Filter) indicator on the display goes out.

**Timer Remote Controller**

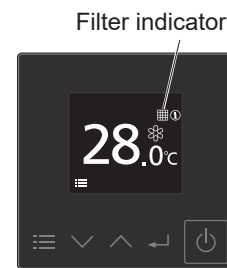


[In the case of High-spec Wired Remote Controller and Wired Remote Controller]  
Refer to the Operating Instructions attached to the optional High-spec Wired Remote Controller or optional Wired Remote Controller.

**High-spec Wired Remote Controller**



**Wired Remote Controller**



**NOTE**

The frequency with which the filter should be cleaned depends on the environment in which the unit is used. Clean the filter frequently for best performance in the area of dusty or oil spots regardless of filter status.

**<How to clean the filter>**

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>**

Remove the filter in reverse order of the section "Install the Filter" on page 1-11-1-2-4.

• **In case of Installing the Duct (field supply)**

Type	F3
Period	(Depends on filter's specifications)

When cleaning the air filter, consult your dealer or service center.



**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.
- The internal coil and other components must also be cleaned periodically. Consult your dealer or service center.
- 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	<ul style="list-style-type: none"> <li>• Sound of refrigerant liquid flowing inside unit</li> <li>• Sound of drainage water through drain pipe</li> </ul>
	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 accumulated in the air conditioner and its air is discharged. Unit inside is dusty. Consult your dealer.
Dewdrop	Dewdrop gets accumulated 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.)	<ul style="list-style-type: none"> <li>• Cleaning is necessary because unit inside (heat exchanger) is dirty. Consult your dealer as technical engineering is required.</li> <li>• During defrost operation</li> </ul>
Fan is rotating for a while even though operation stops.		<ul style="list-style-type: none"> <li>• Fan rotating makes operation smoothly.</li> <li>• Fan may sometimes rotate because of drying heat exchanger due to settings.</li> <li>• Fan may sometimes rotate in internal cleaning operation mode for a while.</li> </ul>
Dust		Dust accumulation inside indoor unit is discharged.
Poor cooling or heating performance		The indoor unit is initially designed to control the indoor temperature detected by the built-in room sensor inside the indoor unit. Due to indoor unit installation position, however, the built-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.	<ul style="list-style-type: none"> <li>• Switch on power if breaker is turned off.</li> <li>• If breaker has been tripped, consult your dealer without turning it on.</li> </ul>
	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.
	Fan speed switch is set to "Low".*	Change to "Medium" or "High".*
	Improper temperature settings	See "Tips for Energy Saving". (on page 1-11-1-2-30)
	Room is exposed to direct sunlight in cooling mode.	
	Doors and /or windows are open.	
	Air filter is clogged.	See "Care and Cleaning". (on page 1-11-1-2-28)
	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 "Medium" or "High".*	

\*Fan speed display on the remote controller

High :  (CZ-RTC4),  (CZ-RTC5B, CZ-RTC6\*)

Medium :  (CZ-RTC4),  (CZ-RTC5B, CZ-RTC6\*)

Low :  (CZ-RTC4),  (CZ-RTC5B, CZ-RTC6\*)

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.

## 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. (See “Care and Cleaning” on page 1-11-1-2-28.) 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.

## IMPORTANT INFORMATION REGARDING THE REFRIGERANT USED

### NOTE

See “■ Outdoor Unit” under the Section 1-11. Installation Instructions.

### ■ SERVICING



#### CAUTION

- Any qualified person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognised assessment specification.
  - Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
  - Servicing shall be performed only as recommended by the manufacturer.
  - Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, (2) to (6) shall be completed prior to conducting work on the system.
- (1) Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.
  - (2) All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.
  - (3) The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
  - (4) If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO<sub>2</sub> fire extinguisher adjacent to the charging area.
  - (5) No person carrying out work in relation to a refrigeration system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. “No Smoking” signs shall be displayed.
  - (6) Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
  - (7) Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer’s maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer’s technical department for assistance.
    - The charge size is in accordance with the room size within which the refrigerant containing parts are installed.
    - The ventilation machinery and outlets are operating adequately and are not obstructed.
    - Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected.
    - Refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

(8) Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

- That capacitors are discharged. This shall be done in a safe manner to avoid possibility of sparking.
- That no live electrical components and wiring are exposed while charging, recovering or purging the system.
- That there is continuity of earth bonding.
- During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc.
- Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
- Ensure that apparatus is mounted securely.
- Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres.
- Replacement parts shall be in accordance with the manufacturer's specifications.

NOTE:

The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
- Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere.
- The test apparatus shall be at the correct rating.
- Replace components only with parts specified by the manufacturer. Unspecified parts by manufacturer may result ignition of refrigerant in the atmosphere from a leak.

## ■ REMOVAL AND EVACUATION



### CAUTION

- When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:
  - Remove refrigerant.
  - Purge the circuit with inert gas.
  - Evacuate.
  - Purge again with inert gas.
  - Open the circuit by cutting or brazing.
- The refrigerant charge shall be recovered into the correct recovery cylinders.
- The system shall be “flushed” with Oxygen free nitrogen (OFN) to render the unit safe.
- This process may need to be repeated several times.
- Compressed air or oxygen shall not be used for this task.
- Flushing shall be achieved by breaking the vacuum in the system with Oxygen free nitrogen (OFN) and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum.
- This process shall be repeated until no refrigerant is within the system.
- When the final Oxygen free nitrogen (OFN) charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.
- This operation is absolutely vital if brazing operations on the pipe work are to take place.
- Ensure that the outlet for the vacuum pump is not close to any ignition sources and there is ventilation available.

## ■ CHARGING PROCEDURES

### NOTE

See “■ Outdoor Unit” under the Section 1-11. Installation Instructions.

## ■ DECOMMISSIONING



### CAUTION

- Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its details.
- It is recommended good practice that all refrigerants are recovered safely.
- Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant.

- It is essential that electrical power is available before the task is commenced.
  - a) Become familiar with the equipment and its operation.
  - b) Isolate system electrically.
  - c) Before attempting the procedure ensure that:
    - Mechanical handling equipment is available, if required, for handling refrigerant cylinders.
    - All personal protective equipment is available and being used correctly.
    - The recovery process is supervised at all times by a competent person.
    - Recovery equipment and cylinders conform to the appropriate standards.
  - d) Pump down refrigerant system, if possible.
  - e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
  - f) Make sure that cylinder is situated on the scales before recovery takes place.
  - g) Start the recovery machine and operate in accordance with manufacturer's instructions.
  - h) Do not overfill cylinders. (No more than 80 % volume liquid charge).
  - i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
  - j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
  - k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.
- Electrostatic charge may accumulate and create a hazardous condition when charging or discharging the refrigerant. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before charging / discharging.

## ■ RECOVERY

















### NOTE

See "11. Recovery" on page 1-11-2-1-6.

## Outdoor Unit

### 1. U-36PZ3E5, U-50PZ3E5, U-60PZ3E5, U-71PZ3E5

#### WARNING

	The appliance shall be stored, installed and operated in a well ventilated room with indoor floor area larger than $A_{min}$ (m <sup>2</sup> ) [refer to Check of Density Limit] and without any continuously operating ignition source. Keep away from open flames, any operating gas appliances or any operating electric heater. Else, it may explode and cause injury or death.
	The mixing of different refrigerants within a system is prohibited. Models that use refrigerant R32 and R410A have a different charging port thread diameter to prevent erroneous charging with refrigerant R22 and for safety. Therefore, check beforehand. [The charging port thread diameter for R32 and R410A is 12.7 mm (1/2 inch).]
	Ensure that foreign matter (oil, water, etc.) does not enter the piping. Also, when storing the piping, securely seal the opening by pinching, taping, etc. (Handling of R32 is similar to R410A.)
	Operation, maintenance, repairing and refrigerant recovery should be carried out by trained and certified personnel in the use of flammable refrigerants and as recommended by the manufacturer. Any personnel conducting an operation, servicing or maintenance on a system or associated parts of the equipment should be trained and certified.
	Any part of refrigerating circuit (evaporators, air coolers, AHU, condensers or liquid receivers) or piping should not be located in the proximity of heat sources, open flames, operating gas appliance or an operating electric heater.
	The user/owner or their authorized representative shall regularly check the alarms, mechanical ventilation and detectors, at least once a year, where as required by national regulations, to ensure their correct functioning.
	A logbook shall be maintained. The results of these checks shall be recorded in the logbook.
	In case of ventilations in occupied spaces shall be checked to confirm no obstruction.
	Before a new refrigerating system is put into service, the person responsible for placing the system in operation should ensure that trained and certified operating personnel are instructed on the basis of the instruction manual about the construction, supervision, operation and maintenance of the refrigerating system, as well as the safety measures to be observed, and the properties and handling of the refrigerant used.
	The general requirement of trained and certified personnel are indicated as below: a) Knowledge of legislation, regulations and standards relating to flammable refrigerants; and, b) Detailed knowledge of and skills in handling flammable refrigerants, personal protective equipment, refrigerant leakage prevention, handling of cylinders, charging, leak detection, recovery and disposal; and, c) Able to understand and to apply in practice the requirements in the national legislation, regulations and Standards; and, d) Continuously undergo regular and further training to maintain this expertise.
	Air-conditioner piping in the occupied space shall be installed in such a way to protect against accidental damage in operation and service.
	Precautions shall be taken to avoid excessive vibration or pulsation to refrigerating piping.
	Ensure protection devices, refrigerating piping and fittings are well protected against adverse environmental effects (such as the danger of water collecting and freezing in relief pipes or the accumulation of dirt and debris).
	Expansion and contraction of long runs piping in refrigerating systems shall be designed and installed securely (mounted and guarded) to minimize the likelihood hydraulic shock damaging the system.
	Protect the refrigerating system from accidental rupture due to moving furniture or reconstruction activities.
	To ensure no leaking, field-made refrigerant joints indoors shall be tightness tested. The test method shall have a sensitivity of 5 grams per year of refrigerant or better under a pressure of at least 0,25 times the maximum allowable pressure (>1.04MPa, max 4.15MPa). No leak shall be detected.



## ⚠ CAUTION

!	<p>1. General</p> <ul style="list-style-type: none"> <li>• Must ensure the installation of pipe-work shall be kept to a minimum. Avoid use dented pipe and do not allow acute bending.</li> <li>• Must ensure that pipe-work shall be protected from physical damage.</li> <li>• Must comply with national gas regulations, state municipal rules and legislation. Notify relevant authorities in accordance with all applicable regulations.</li> <li>• Must ensure mechanical connections be accessible for maintenance purposes.</li> <li>• In cases that require mechanical ventilation, ventilation openings shall be kept clear of obstruction.</li> <li>• When disposal of the product, do follow to the precautions in #11 and comply with national regulations.</li> <li>• In case of field charge, the effect on refrigerant charge caused by the different pipe length has to be quantified, measured and labelled. Always contact to local municipal offices for proper handling.</li> <li>• Ensure the actual refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed.</li> <li>• Ensure refrigerant charge not to leak.</li> <li>• Wear appropriate protective equipment, including respiratory protection, as conditions warrant.</li> <li>• Keep all sources of ignition and hot metal surfaces away.</li> </ul>
!	<p>2. Servicing</p> <p>2-1. Qualification of workers</p> <ul style="list-style-type: none"> <li>• Any qualified person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.</li> <li>• Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.</li> <li>• Servicing shall be performed only as recommended by the manufacturer.</li> <li>• The system is inspected, regularly supervised and maintained by a trained and certified service personnel who is employed by the person user or party responsible.</li> </ul>
!	<p>2-2. Checks to the area</p> <ul style="list-style-type: none"> <li>• Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, the precautions in #2-3 to #2-7 must be followed before conducting work on the system.</li> </ul>
!	<p>2-3. Work procedure</p> <ul style="list-style-type: none"> <li>• Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapour being present while the work is being performed.</li> </ul>
!	<p>2-4. General work area</p> <ul style="list-style-type: none"> <li>• All maintenance staff and others working in the local area shall be instructed and supervised on the nature of work being carried out.</li> <li>• Avoid working in confined spaces. Always ensure away from source, at least 2 meter of safety distance, or zoning of free space area of at least 2 meter in radius.</li> </ul>
!	<p>2-5. Checking for presence of refrigerant</p> <ul style="list-style-type: none"> <li>• The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres.</li> <li>• Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non sparking, adequately sealed or intrinsically safe.</li> <li>• In case of leakage/spillage happened, immediately ventilate area and stay upwind and away from spill/release.</li> <li>• In case of leakage/spillage happened, do notify persons down wind of the leaking/spill, isolate immediate hazard area and keep unauthorized personnel out.</li> </ul>

<p>❗</p>	<p>2-6. Presence of fire extinguisher</p> <ul style="list-style-type: none"> <li>• If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available at hand.</li> <li>• Have a dry powder or CO<sub>2</sub> fire extinguisher adjacent to the charging area.</li> </ul>
<p>❗</p>	<p>2-7. No ignition sources</p> <ul style="list-style-type: none"> <li>• No person carrying out work in relation to a refrigerating system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. He/She must not be smoking when carrying out such work.</li> <li>• All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space.</li> <li>• Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks.</li> <li>• “No Smoking” signs shall be displayed.</li> </ul>
<p>❗</p>	<p>2-8. Ventilated area</p> <ul style="list-style-type: none"> <li>• Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work.</li> <li>• A degree of ventilation shall continue during the period that the work is carried out.</li> <li>• The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.</li> </ul>
<p>❗</p>	<p>2-9. Checks to the refrigerating equipment</p> <ul style="list-style-type: none"> <li>• Where electrical components are being changed, they shall be fit for the purpose and to the correct specification.</li> <li>• At all times the manufacturer’s maintenance and service guidelines shall be followed.</li> <li>• If in doubt consult the manufacturer’s technical department for assistance.</li> <li>• The following checks shall be applied to installations using flammable refrigerants. <ul style="list-style-type: none"> <li>- The actual refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed.</li> <li>- The ventilation machinery and outlets are operating adequately and are not obstructed.</li> <li>- If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant.</li> <li>- Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected.</li> <li>- Refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are properly protected against being so corroded.</li> </ul> </li> </ul>
<p>❗</p>	<p>2-10. Checks to electrical devices</p> <ul style="list-style-type: none"> <li>• Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures.</li> <li>• Initial safety checks shall include but not limit to:- <ul style="list-style-type: none"> <li>- That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking.</li> <li>- That there is no live electrical components and wiring are exposed while charging, recovering or purging the system.</li> <li>- That there is continuity of earth bonding.</li> </ul> </li> <li>• At all times the manufacturer’s maintenance and service guidelines shall be followed.</li> <li>• If in doubt consult the manufacturer’s technical department for assistance.</li> <li>• If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with.</li> <li>• If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used.</li> <li>• The owner of the equipment must be informed or reported so all parties are advised thereafter.</li> </ul>

❗	<p>3. Repairs to sealed components</p> <ul style="list-style-type: none"> <li>• During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc.</li> <li>• If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.</li> <li>• Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.</li> <li>• Ensure that apparatus is mounted securely.</li> <li>• Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres.</li> <li>• Replacement parts shall be in accordance with the manufacturer's specifications.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>- The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment.</li> <li>- Intrinsically safe components do not have to be isolated prior to working on them.</li> </ul> </div>
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❗	<p>4. Repair to intrinsically safe components</p> <ul style="list-style-type: none"> <li>• Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.</li> <li>• Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere.</li> <li>• The test apparatus shall be at the correct rating.</li> <li>• Replace components only with parts specified by the manufacturer. Unspecified parts by manufacturer may result ignition of refrigerant in the atmosphere from a leak.</li> </ul>
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❗	<p>5. Cabling</p> <ul style="list-style-type: none"> <li>• Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects.</li> <li>• The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.</li> </ul>
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❗	<p>6. Detection of flammable refrigerants</p> <ul style="list-style-type: none"> <li>• Under no circumstances shall potential sources of ignition be used in the searching or detection of refrigerant leaks.</li> <li>• A halide torch (or any other detector using a naked flame) shall not be used.</li> <li>• The following leak detection methods are deemed acceptable for all refrigerant systems. <ul style="list-style-type: none"> <li>- No leaks shall be detected when using detection equipment with a sensitivity of 5 grams per year of refrigerant or better under a pressure of at least 0,25 times the maximum allowable pressure (&gt;1.04MPa, max 4.15MPa) for example, a universal sniffer.</li> <li>- Electronic leak detectors may be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.)</li> <li>- Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.</li> <li>- Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed.</li> <li>- Leak detection fluids are also suitable for use with most refrigerants, for example, bubble method and fluorescent method agents. The use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.</li> <li>- If a leak is suspected, all naked flames shall be removed/extinguished.</li> <li>- If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. The precautions in #7 must be followed to remove the refrigerant.</li> </ul> </li> </ul>
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	<p>7. Removal and evacuation</p> <ul style="list-style-type: none"> <li>• When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:</li> </ul>
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- remove refrigerant -> • purge the circuit with inert gas -> • evacuate -> • purge with inert gas ->
- open the circuit by cutting or brazing

- The refrigerant charge shall be recovered into the correct recovery cylinders.
- The system shall be purged with OFN to render the appliance safe. (remark: OFN = oxygen free nitrogen, type of inert gas)
- This process may need to be repeated several times.
- Compressed air or oxygen shall not be used for this task.
- Purging shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum.
- This process shall be repeated until no refrigerant is within the system.
- When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.
- This operation is absolutely vital if brazing operations on the pipe work are to take place.
- Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and there is ventilation available.

## 8. Charging procedures

- In addition to conventional charging procedures, the following requirements shall be followed.
  - Ensure that contamination of different refrigerants does not occur when using charging equipment.
  - Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
  - Cylinders shall be kept in an appropriate position according to the instructions.
  - Ensure that the refrigerating system is earthed prior to charging the system with refrigerant.
  - Label the system when charging is complete (if not already).
  - Extreme care shall be taken not to over fill the refrigerating system.
- Prior to recharging the system it shall be pressure tested with OFN (refer to #7).
- The system shall be leak tested on completion of charging but prior to commissioning.
- A follow up leak test shall be carried out prior to leaving the site.
- Electrostatic charge may accumulate and create a hazardous condition when charging and discharging the refrigerant. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before charging/discharging.

## 9. Decommissioning

- Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its details.
- It is recommended good practice that all refrigerants are recovered safely.
- Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant.
- It is essential that electrical power is available before the task is commenced.
 

<ul style="list-style-type: none"> <li>a) Become familiar with the equipment and its operation.</li> <li>b) Isolate system electrically.</li> <li>c) Before attempting the procedure ensure that:               <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <ul style="list-style-type: none"> <li>• mechanical handling equipment is available, if required, for handling refrigerant cylinders;</li> <li>• all personal protective equipment is available and being used correctly;</li> <li>• the recovery process is supervised at all times by a competent person;</li> <li>• recovery equipment and cylinders conform to the appropriate standards.</li> </ul> </div> </li> </ul>	<ul style="list-style-type: none"> <li>f) Make sure that cylinder is situated on the scales before recovery takes place.</li> <li>g) Start the recovery machine and operate in accordance with instructions.</li> <li>h) Do not over fill cylinders. (No more than 80 % volume liquid charge).</li> <li>i) Do not exceed the maximum working pressure of the cylinder, even temporarily.</li> <li>j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.</li> </ul>
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- d) Pump down refrigerant system, if possible.

	<p>e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.</p> <ul style="list-style-type: none"> <li>• Electrostatic charge may accumulate and create a hazardous condition when charging or discharging the refrigerant. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before charging/discharging.</li> </ul>	<p>k) Recovered refrigerant shall not be charged into another refrigerating system unless it has been cleaned and checked.</p>
<p>❗</p>	<p>10. Labelling</p> <ul style="list-style-type: none"> <li>• Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant.</li> <li>• The label shall be dated and signed.</li> <li>• Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.</li> </ul>	
<p>❗</p>	<p>11. Recovery</p> <ul style="list-style-type: none"> <li>• When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.</li> <li>• When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed.</li> <li>• Ensure that the correct number of cylinders for holding the total system charge are available.</li> <li>• All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant).</li> <li>• Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order.</li> <li>• Recovery cylinders are evacuated and, if possible, cooled before recovery occurs.</li> <li>• The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of concerning the equipment that is at hand and shall be suitable for the recovery of flammable refrigerants.</li> <li>• In addition, a set of calibrated weighing scales shall be available and in good working order.</li> <li>• Hoses shall be complete with leak-free disconnect couplings and in good condition.</li> <li>• Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.</li> <li>• The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged.</li> <li>• Do not mix refrigerants in recovery units and especially not in cylinders.</li> <li>• If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant.</li> <li>• The evacuation process shall be carried out prior to returning the compressor to the suppliers.</li> <li>• Only electric heating to the compressor body shall be employed to accelerate this process.</li> <li>• When oil is drained from a system, it shall be carried out safely.</li> </ul>	

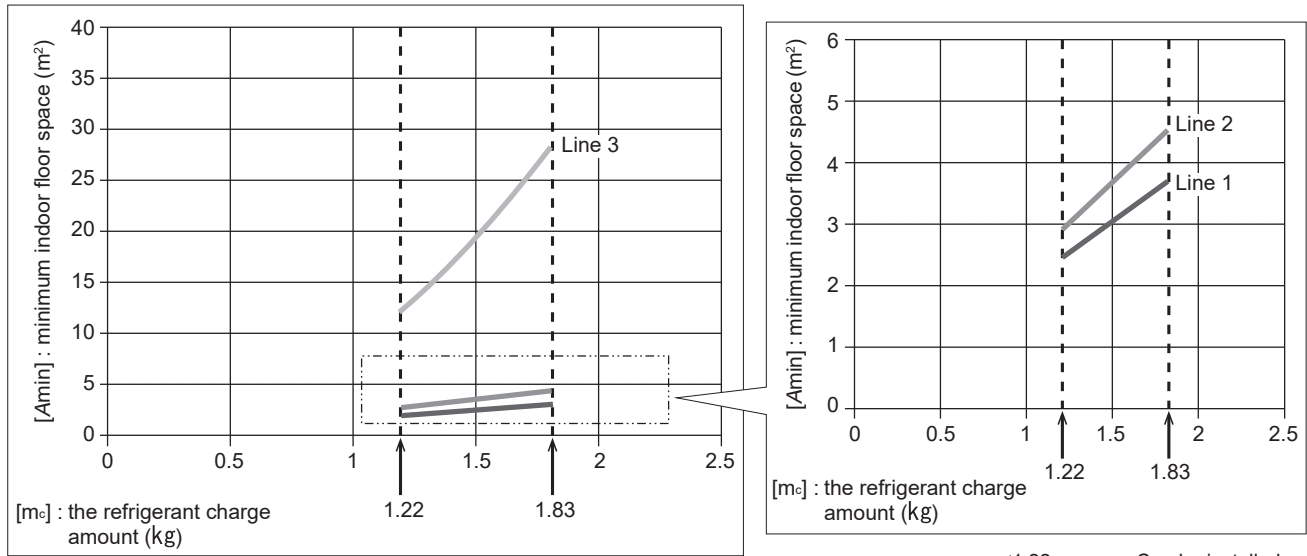
## Check of Density Limit

### 1. Outdoor

The refrigerant (R32), which is used in the air conditioner, is a flammable refrigerant.

So the requirements for installation space of appliance are determined according to the refrigerant charge amount ( $m_c$ ) used in the appliance.

The minimum indoor floor space compared with the amount of refrigerant is roughly as follows:



Installation height of Indoor Unit: hinst	Indoor Unit Type	Density Limit Line
$hinst \geq 2.2$ m	4-Way Cassette Low Silhouette Ducted	Line 1
$1.8 \text{ m} \leq hinst < 2.2$ m	Low Silhouette Ducted	Line 2
$hinst < 1.8$ m	Low Silhouette Ducted	Line 3

	U-36PZ3E5	U-50PZ3E5	U-60PZ3E5	U-71PZ3E5
$m_{max}$ (kg)	0.95	1.33	1.49	1.83

$m_c \leq 1.22$  : Can be installed  
 $1.22 < m_c \leq m_{max}$  : Can be installed above "Density Limit Line" \*1  
 \*1 See "Density Limit Line" in Table 1-11-2-1-1 and Fig. 1-11-2-1-1, Fig. 1-11-2-1-2 of indoor unit.  
 $m_c > m_{max}$  : Cannot be installed

$m_c$  : The refrigerant charge amount (Total of refrigerant at shipment and refrigerant charge amount in the field).

- Please calculate  $m_c$  according to piping length in the field as shown in the calculation example below.

< Calculating example > • Refer to table "Specification for pipe connecting indoor unit to outdoor unit".

(conditions : U-71PZ3E5 Total pipe length = 40 m)

$$m_c = 1 + 2 = 1 + (3 * (4 - 5)) = 1.32 \text{ kg} + (0.017 \text{ kg} * (40 \text{ m} - 10 \text{ m})) = 1.83 \text{ kg}$$

- 1 : Refrigerant charged at shipment    2 : Refrigerant charge amount in the field    3 : Additional charge per 1m  
 4 : Total pipe length    5 : Charge-less pipe length(max.)

- If the total piping length is within the maximum value of the charge-less piping length, refrigerant charge in the field is unnecessary.

$m_{max}$  : The maximum refrigerant charge amount

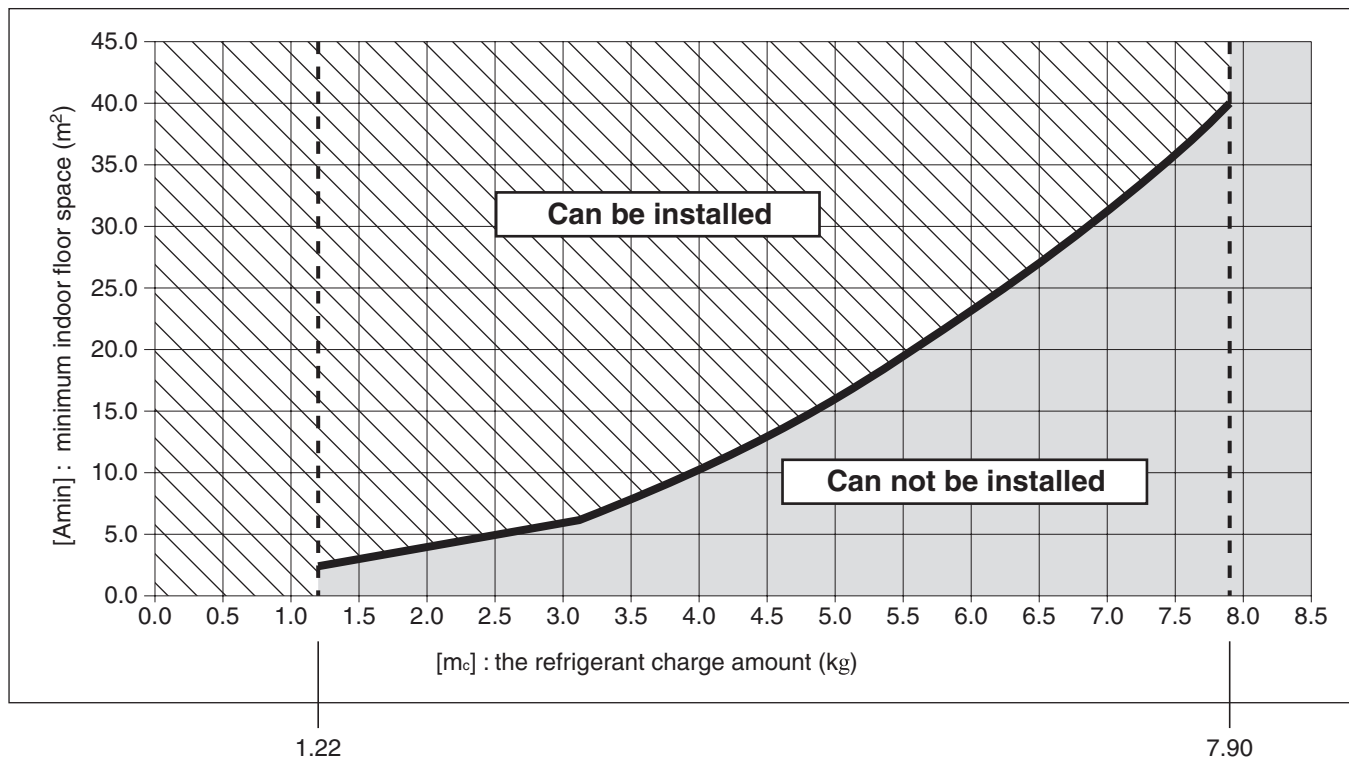
**Check of Density Limit**

**[Type U3]**

The refrigerant (R32), which is used in the air conditioner, is a flammable refrigerant. So the requirements for installation space of appliance are determined according to the refrigerant charge amount [ $m_c$ ] used in the appliance.

Regarding the refrigerant charge amount [ $m_c$ ] used in the appliance, refer to the installation instructions for the outdoor unit.

The minimum indoor floor space compared with the amount of refrigerant is roughly as follows:



**Fig. 1-11-2-1-1**

[ $m_c$ ] : The refrigerant charge amount (kg) (Total of refrigerant at shipment and refrigerant charge amount in the field).

[ $A_{min}$ ] : Minimum indoor floor space (m<sup>2</sup>)

[ $m_c$ ]	[ $A_{min}$ ]
1.22	2.5
1.3	2.6
1.4	2.8
1.5	3.0
1.6	3.2
1.7	3.4
1.8	3.6

**Check of Density Limit**  
**[Type F3]**

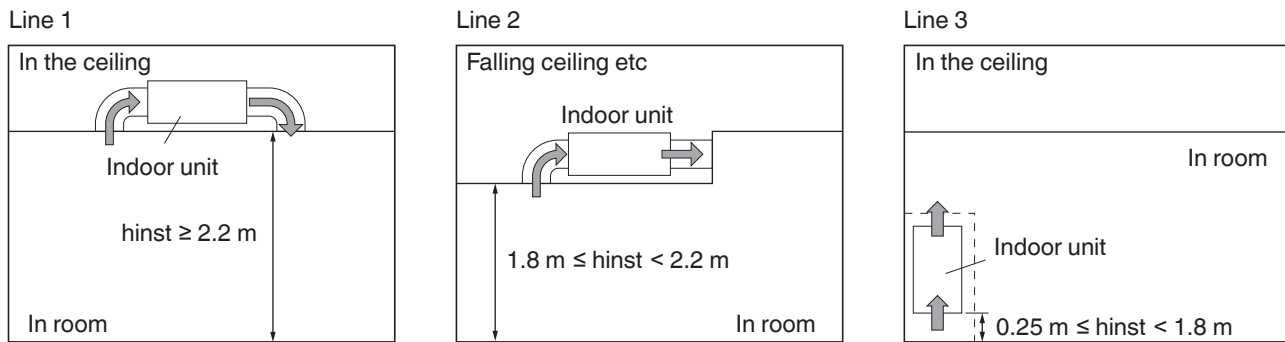
The refrigerant (R32), which is used in the air conditioner, is a flammable refrigerant. So the requirements for installation space of appliance are determined according to the refrigerant charge amount [m<sub>c</sub>] used in the appliance.

Regarding the refrigerant charge amount [m<sub>c</sub>] used in the appliance, refer to the installation instructions for the outdoor unit.

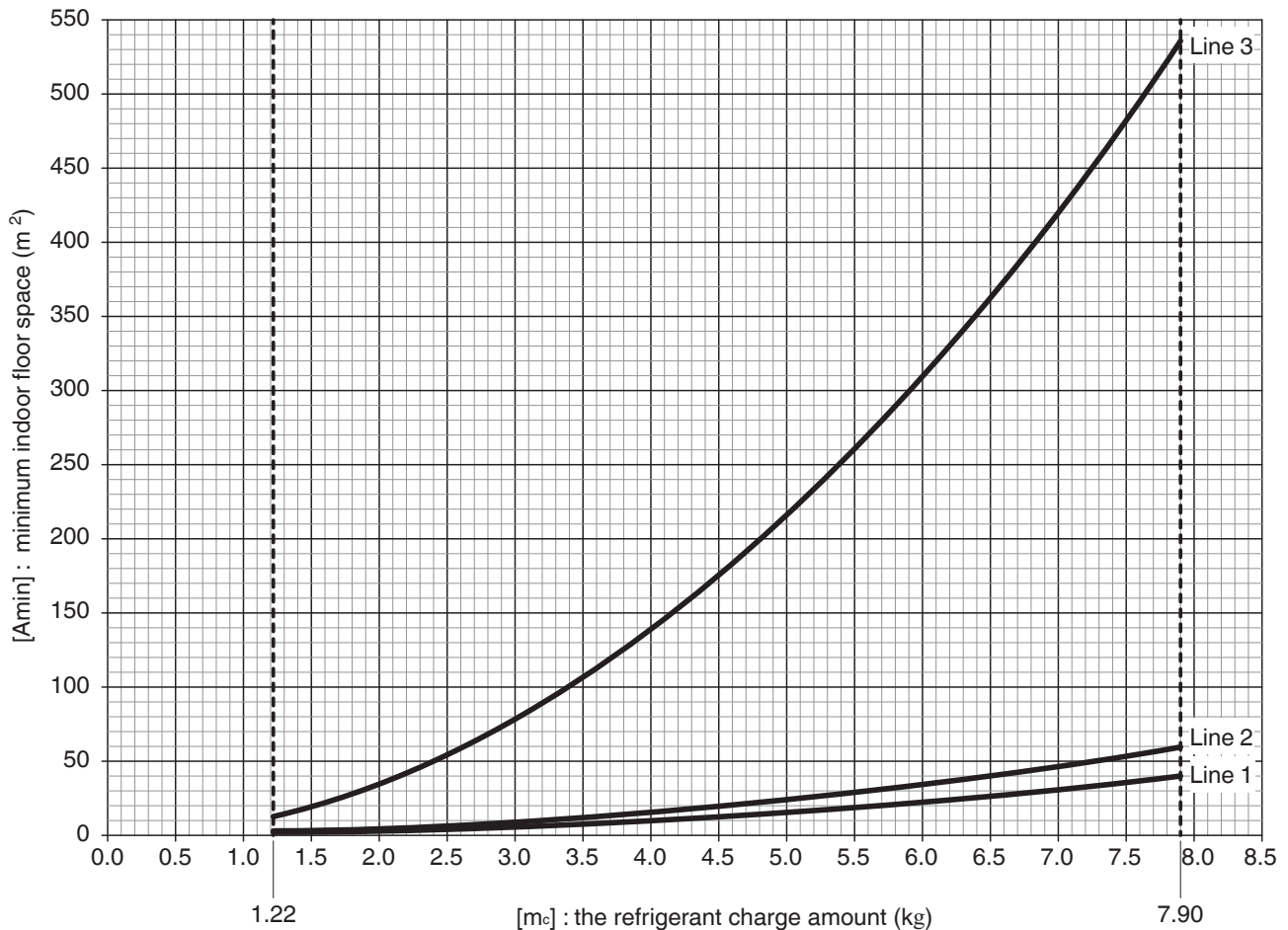
The minimum indoor floor space compared with the amount of refrigerant is roughly as follows:

**Table 1-11-2-1-2**

Installation height of Indoor Unit: hinst	Indoor Unit Type	Density Limit Line
hinst ≥ 2.2 m	Duct units (Horizontal installation)	Line 1
1.8 m ≤ hinst < 2.2 m	Duct units (Horizontal installation)	Line 2
hinst < 1.8 m	Duct units (Vertical installation)	Line 3



The minimum indoor floor space compared with the amount of refrigerant is roughly as follows: Use the graph or Table 1-11-2-1-3 to determine the minimum indoor floor space.



**Fig. 1-11-2-1-2**



**Table 1-11-2-1-3**

[m <sub>c</sub> ] kg	[Amin] m <sup>2</sup>		
	Line 1	Line 2	Line 3
1.22	2.5	3.0	12.8
1.3	2.6	3.2	14.5
1.4	2.8	3.4	16.8
1.5	3.0	3.7	19.3
1.6	3.2	3.9	22.0
1.7	3.4	4.2	24.8
1.8	3.6	4.4	27.8

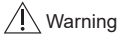
$m_c \leq 1.22$  : Can be installed

$1.22 < m_c \leq m_{max}$  : Can be installed above "Density Limit Line" \*1

\*1 See Table 1-11-2-1-2 and Fig. 1-11-2-1-2 of indoor unit when deciding "Density Limit Line".

**!** Please install according to 「Warning」 「Caution」 on page 1-11-2-1-1 to 1-11-2-1-6.

### 1. SELECT THE OUTDOOR UNIT INSTALLATION LOCATION



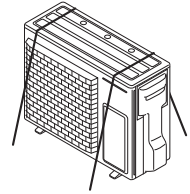
**Warning**

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.

1. Install the unit once you have checked that the installation location matches the following conditions.
  - A location with sufficient ventilation.
  - Possibly a location that is sheltered from rain or direct sunlight and is well-ventilated so that hot and cool air does not build up.
  - A location where the area around the discharge is not exposed to animals or plants which could adversely affect the release of hot or cool air from the unit.
  - A location where the discharge and operation noise will not be a nuisance to the neighbours.
  - A location that can support the product's weight or vibrations and secured for horizontal installation wherever possible.
  - A location that does not obstruct the air discharge or intake.
  - A location where there is no danger of flammable or corrosive gas leaks.
  - A location that provides space for installation and service.
  - A location that allows the pipe and cable length fixture for internal and external connections.
  - It may need two or more people to carry out the installation work.
2. Refer to the diagram below for the installation location which is exposed to strong wind.
  - If a strong wind of more than 5 m/sec blows to the area directly in front of the discharge, the outdoor unit's air flow is reduced and the outflow may re-enter (short circuit) causing the following outcome:  
"Reduced capacity", "Increased frost formation during heating" or "Operation stopped due to increased pressure".  
Should an exceptionally strong wind blow to the area directly in front of the discharge of the outdoor unit; there is the risk of damage due to the fan's high-speed reverse rotation.
  - If the direction of the prevailing wind is known when operating the unit, place the unit at an appropriate angle to the wind's direction so that the discharge faces towards a building or a wall.



3. If installing at locations prone to snowfall, install the unit as high as possible with suitable roofing which shelters the unit from snow.
4. Avoid installing the unit in locations where there are petroleum products (such as machine oil), saline content (such as coastal areas), sulphurous gas and where high frequency noise is generated.
5. Place the indoor and outdoor unit, power cords and connection cable between outdoor and indoor unit at a minimum distance of 1 meter or more away from televisions and radios. This is to avoid interference to picture and/or sound.  
(However, depending on the electromagnetic waves, noise interference may still occur even with the 1 meter separation.)
6. For restaurants and kitchens, avoid installing at locations which draws oil and steam.  
Plastic parts can deteriorate from droplets of oil and steam or it can cause falling parts or water leakage.
7. Avoid installing at the location where cutting oil mist or iron powder is present.
8. If there is an immense voltage fluctuation due to the location's problem, ensure to split the power supply.
9. When installing the product in a place where it will be affected by typhoon or strong wind such as wind blowing between buildings, including the rooftop of a building and a place where there is no building in surroundings, fix the product with an overturn prevention wire, etc.
10. Ensure to assign several people or use a mechanical lift, etc. to transport the unit.



**2. SELECTING THE LOCATION FOR INSTALLATION SERVICE**

Please secure necessary space to guarantee performance and service & maintenance.

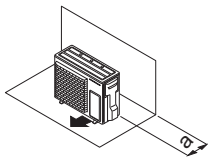
For multiple installations, please secure enough space to enable removal of side face screws between units. (unit:mm)

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

- When the upward area is open

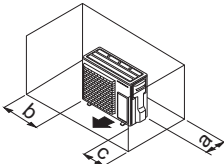
**(1) One outdoor unit installed individually**

Obstruction only on air inlet side



a	50 mm or more
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Obstruction on both sides

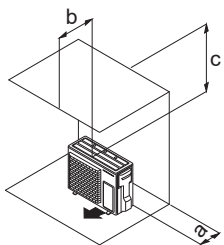


a	50 mm or more
b	50 mm or more
c	250 mm or more

- When an obstruction is present also in the upward area

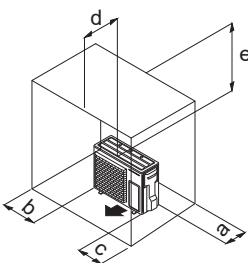
**(1) One outdoor unit installed individually**

Obstruction only on air inlet side



a	50 mm or more
b	500 mm or less
c	300 mm or more

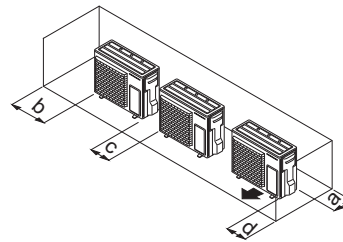
Obstruction also on the air inlet side and both sides



a	50 mm or more
b	50 mm or more
c	250 mm or more
d	500 mm or less
e	1,000 mm or more

**(2) Two or more outdoor units installed side by side**

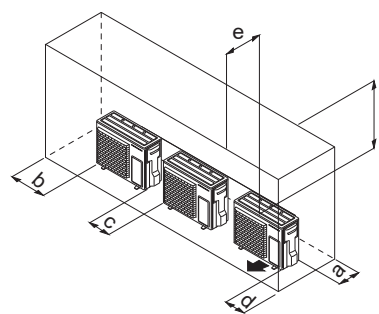
Obstructions on both sides



a	200 mm or more
b	150 mm or more
c	250 mm or more
d	250 mm or more

**(2) Two or more outdoor units installed side by side**

Obstruction also on the air inlet side and both sides

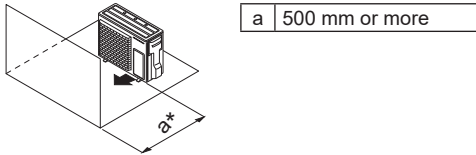


a	400 mm or more
b	1,000 mm or more
c	250 mm or more
d	250 mm or more
e	500 mm or less
f	1,000 mm or more

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

- When the upward area is open

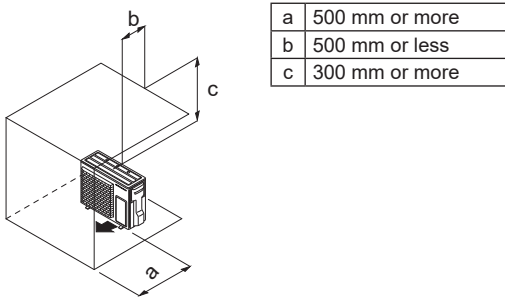
(1) One outdoor unit installed individually



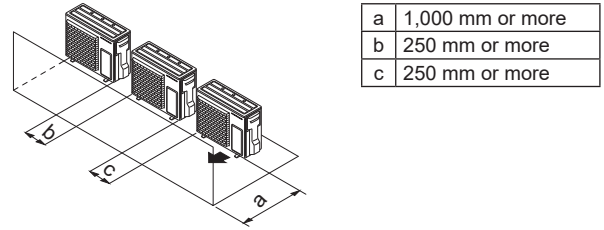
\* When also using the air-discharge chamber, provide a space of 500 mm or more.

- When an obstruction is present also in the upward area

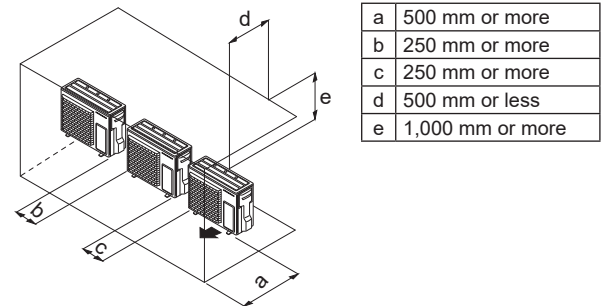
(1) One outdoor unit installed individually



(2) Two or more units installed side by side



(2) Two or more units installed side by side

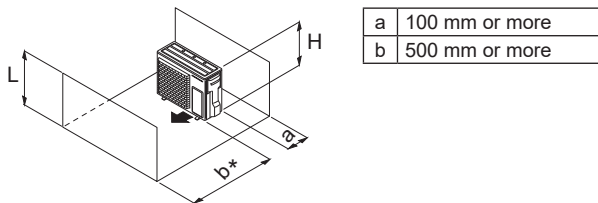


(C) When an obstruction is present on both the air inlet and air outlet sides

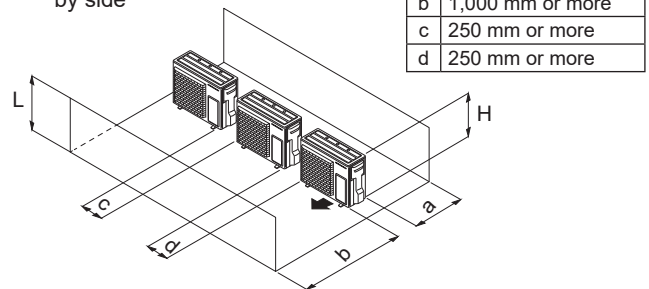
Case 1: When an obstruction on the air outlet side is higher than the outdoor unit ( $L > H$ )  
(There is no height restriction on the air inlet side.)

- When the upward area is open

(1) One outdoor unit installed individually

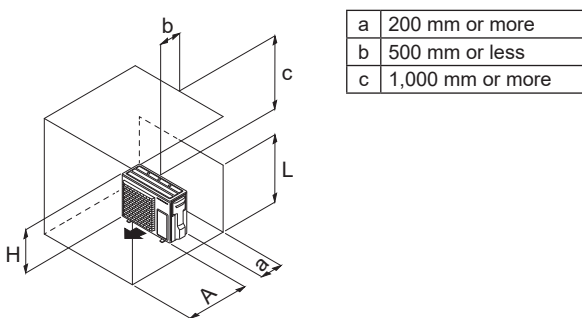


(2) Two or more units installed side by side



- When an obstruction is present also in the upward area

(1) One outdoor unit installed individually

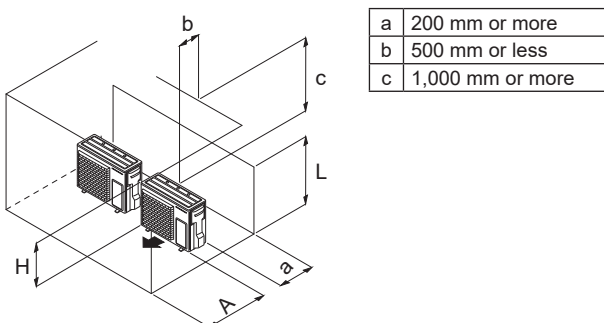


The dimensional relationship between H, A, and L is as shown in the following table.

Unit: mm		
	L	A
$L \leq H$	$0 < L \leq 1/2H$	300
	$1/2H < L \leq H$	500
$H < L$	Install the frame to achieve $L \leq H$ .	

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

(2) Only two outdoor units installed side by side



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

Unit: mm		
	L	A
$L \leq H$	$0 < L \leq 1/2H$	500
	$1/2H < L \leq H$	750
$H < L$	Install the frame to achieve $L \leq H$ .	

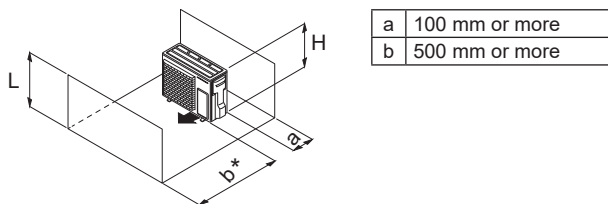
Close the area under the frame so that the outlet air does not bypass there.

Only two outdoor units can be installed side by side.

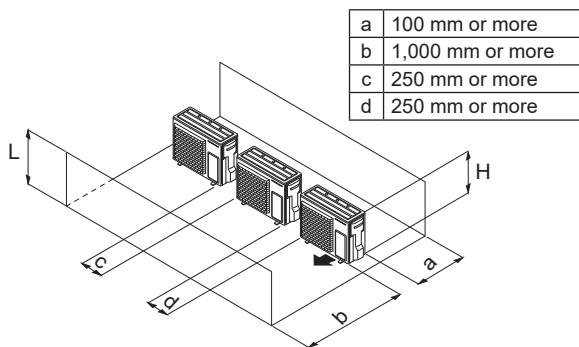
Case 2: When an obstruction on the air outlet side is lower than the outdoor unit ( $L \leq H$ )  
 (There is no height restriction on the air inlet side.)

- When the upward area is open

(1) One outdoor unit installed individually

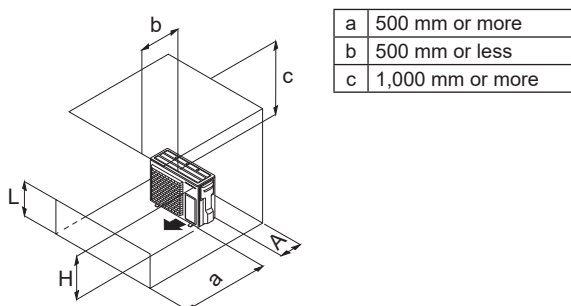


(2) Two or more units installed side by side



- When an obstruction is present also in the upward area

(1) One outdoor unit installed individually

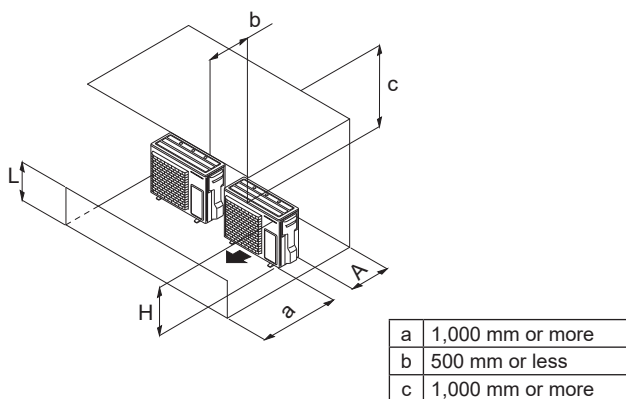


The dimensional relationship between H, A, and L is as shown in the following table.

Unit: mm	
	A
$L \leq H$	200
$H < L$	Install the frame to achieve $L \leq H$ .

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

(2) Only two outdoor units installed side by side



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

Unit: mm	
	A
$L \leq H$	200
$H < L$	Install the frame to achieve $L \leq H$ .

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

Only two outdoor units can be installed side by side.

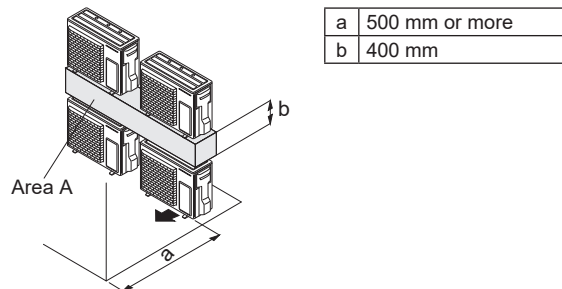
(D) When outdoor units are stacked

Only two outdoor units can be stacked.

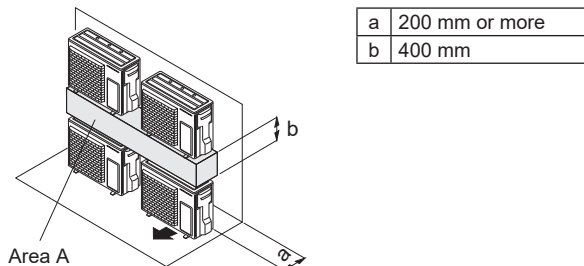
For drain treatment, a space of at least 400 mm is required between the upper and lower outdoor units.

Close the area A (gap between the upper outdoor unit and lower outdoor unit) so that the outlet air does not bypass there.

(1) Obstruction on the air outlet side

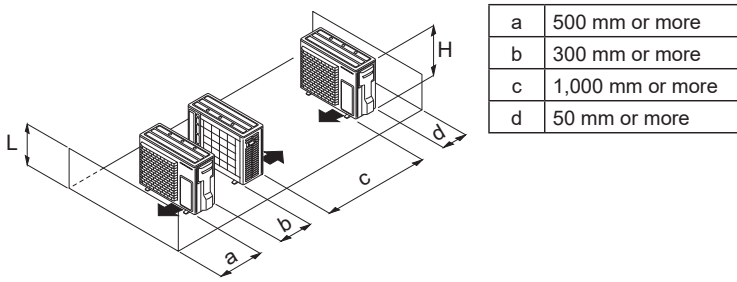


(2) Obstruction on the air inlet side

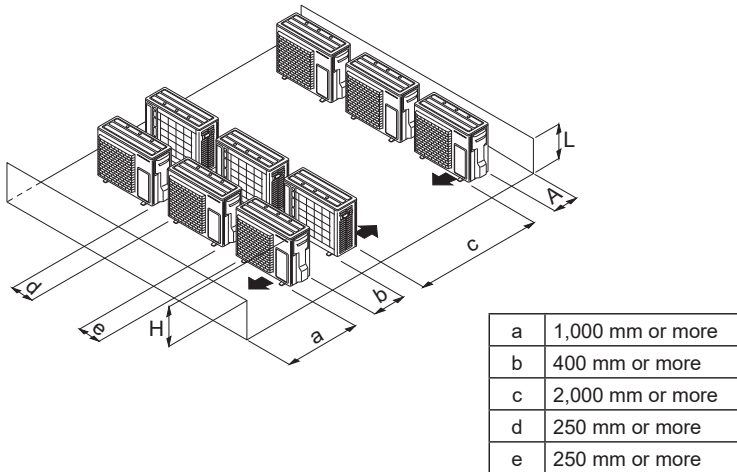


(E) When outdoor units are installed in rows, such as on a rooftop ( $L < H$ )

(1) One outdoor unit installed in each row



(2) Two or more units installed side by side.



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

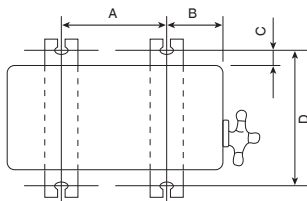
Unit: mm	
	A
$L \leq H$	150
$H < L$	Installation is not allowed.

The values described above are the least space to optimize application performance.  
If any service area is needed for service according to field circumstance, obtain enough service space.

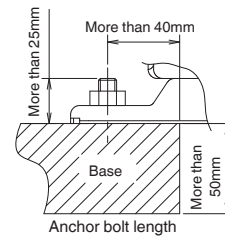
- The above mentioned distance is required for optimal unit performance.  
Allow as much space as possible in order to obtain the best performance from the units.

**4. TRANSPORT AND INSTALL THE OUTDOOR UNIT**

- Transporting
  1. Transport the outdoor unit in its original packaging as close as possible to the installation location.
  2. In the event that the unit needs to be lifted or suspended, use a rope or belt and use cloth or wood as padding to avoid damaging the unit.
  3. Use the side handles to carry the unit and be careful not to touch the fan with your hand or any objects.
- Installation
  1. Read the "Select the outdoor unit installation location" thoroughly before installing the outdoor unit.
  2. When installing to a concrete or solid surface, use M10 or a W 3/8 bolts and nuts to secure the unit. Ensure that it installed upright on a horizontal plane. (Use an anchor bolt for the installation as shown in the diagram below.)
  3. Avoid installing on the slanted roof.
  4. In the even where the roof is at risk of receiving oscillations or vibrations, secure the unit with a seismic isolating mount or vibration absorbing rubber.
  5. The drain water will be discharged from the unit during heating or defrosting operation mode. Select an appropriate location with good drainage system. (In the winter, there is risk of slipping due to freezing, and depending on the installation set up there is risk of drain water running overhead.)
    - × Please consult us if installing drain elbows.
    - × In cold regions (where the outdoor temperature can drop to below 0° for 2 to 3 consecutive days), the drain water may freeze and may prevent the fan from operating. For this case, do not use the drain elbow.



Model	A	B	C	D
U-36***	540 mm	160 mm	18.5 mm	330 mm
U-50***				
U-60***	613 mm	131 mm	24 mm	360.5 mm
U-71***				



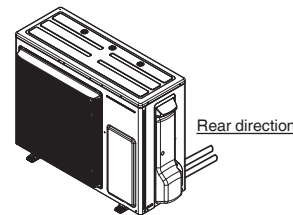
**5. REFRIGERANT INSTALLATION**

For indoor unit refrigerant piping installation, refer to the installation instruction manual that comes with that indoor unit.

1. Precautions during refrigerant installation.
  - Use clean pipes with no dust inside.
 

The pipe may corrode with the presence of fluorine dust which will adversely affect the refrigerant piping system due to deterioration of the refrigerant oil, etc.
  - This unit is specifically for R32. Ensure to adhere to the following items and install accordingly:
    - Use pipe cutters and flaring tools which are specially designed for use with R32.
    - When connecting with flaring tools, coat the flare section with ether-based oil.
    - Ensure to use flare nuts supplied with the unit when connecting this unit.
    - Only for storing or for open pipes.
    - Set the lower limit of the allowable pipe length to 3m.
 

If the pipe is shorter than 3m, the refrigerant may become overfilled and a problem such as abnormal high pressure could occur.
    - Carefully handle the liquid refrigerant, as it may cause a frostbite.
    - Do not release refrigerants during the piping works for installing, re-installing and repairing refrigeration parts.



Specification for pipe connecting indoor unit to outdoor unit.

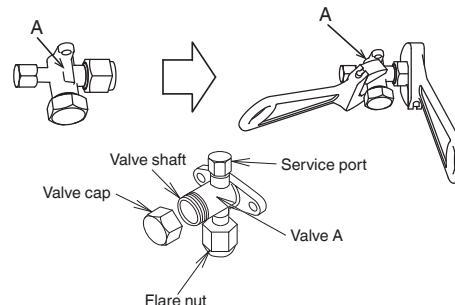
		U-36PZ3E5	U-50PZ3E5	U-60PZ3E5	U-71PZ3E5
Pipe outer diameter	Liquid mm (in.)	6.35 (1/4)			
	Gas mm (in.)	12.7 (1/2)		15.88 (5/8)	
Maximum pipe length	(m)	15	20	30	40
Maximum elevation	Outdoor unit is placed higher (m)	15			20
	Outdoor unit is placed lower (m)				
Charge-less pipe length	(m)	3 ~ 7.5			3 ~ 10
Additional charge per 1 m	(g)	10	15		17
Refrigerant charged at shipment	(kg)	0.87	1.14	1.15	1.32
Total refrigerant amount	(kg)	0.95	1.33	1.49	1.83

Piping Thickness:

Size mm (in.)	6.35 (1/4)	9.52 (3/8)	12.7 (1/2)	15.88 (5/8)
Thickness. mm	≥ 0.8	≥ 0.8	≥ 0.8	≥ 1.0

**Precautions when operating the 2/3-way valve for piping installation**

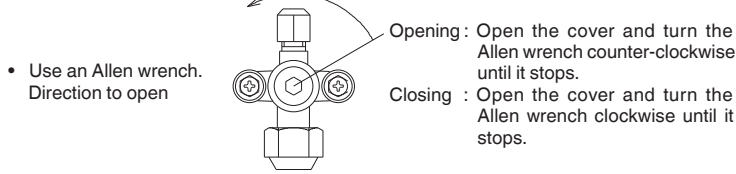
- Do not open the 2/3-way valve until the piping installation is completed.
  - It is closed during shipment.
  - When removing or tightening the gas tube flare nut, use 2 adjustable wrenches together: one at the gas tube flare nut, and the other at part A.
- Refer to the following table for the tightening torque of the 2/3-way valve flare nuts.
  - If the nuts are over tightened, they may cause the flares to break or leak.
- Do not add additional force to the valve's cover.
  - Using spanners on the cover or valve itself (other than the hexagonal parts) may cause gas leakage. Avoid using spanners on the cover or parts other than the hexagonal part of the valve.



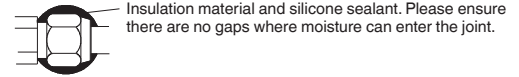
**!** Ensure to do the re-flaring of pipes before connecting to units to avoid leaking.

To prevent the ingress of moisture into the joint which could have the potential to freeze and then cause leakage, the joint must be sealed with suitable silicone and insulation material. The joint should be sealed on both liquid and gas side.

[3-way valve operation method]



- Use an Allen wrench. Direction to open



Silicone Sealant must be neutral cure and ammonia free. Use of silicon containing ammonia can lead to stress corrosion on the joint and cause leakage.

		Tightening torque (approx.)
Valve cap (Valve size)	ø6.35 (1/4")	14N•m~18N•m (140kgf•cm~180kgf•cm)
	ø12.7 (1/2")	49N•m~55N•m (490kgf•cm~550kgf•cm)
	ø15.88	48.0N•m~59.8N•m (480kgf•cm~598kgf•cm)
Service port		10.7N•m~14.7N•m (107kgf•cm~147kgf•cm)

**Precautions for handling the valve cap**

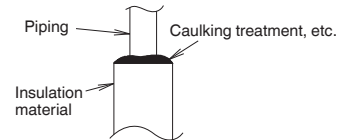
- Ensure not to scratch the inner surface of the valve or the end of the valve shaft.
- Once adjustments to the valve are completed, ensure to tighten the valve cap according to the prescribed torque.

**Precautions for handling the service ports**

- Use a push-rod with a charge hose.
- Once adjustments to the valve are completed, ensure to tighten the valve cap according to the prescribed torque.

**Precautions for connecting the pipes**

- For proper connection, align the union and flare straight with each other.
- Ensure that the pipes do not come into contact with the compressor's bolts or exterior panel.
- There is a risk of condensation from the 3-way valve coming out between the insulation material and the indoor unit's piping when you install the outdoor unit above then the indoor unit. Ensure to caulk the connection parts.



**Precautions for insulation installation**

**Maximum temperature limit of gas or liquid piping is 120 °C**

- In high humidity environment, reinforce the insulation material for the refrigerant piping. Failure to do so may result in condensation on the surface of the insulation material.
- Use materials with good heat-resistant properties as the heat insulator for the pipes. Ensure to insulate both the gas side and liquid side pipes. If the pipes are not adequately insulated, condensation and water leakages may occur.
- Ensure that the current insulation covers the pipes up to the unit's connecting part. If the piping is exposed, it may cause condensation or burn (when touch the pipe).

**Precautions for flare nut installation**

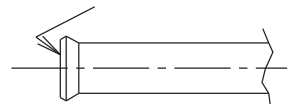
- Dimensions when adding flare nuts and the tightening torque

Piping size	Tightening torque (approx.)	Flare section dimensions A	Flare configuration
ø 6.35	18.0 N•m (180 kgf•cm)	8.7 ~ 9.1 mm	
ø 9.52	42.0 N•m (420 kgf•cm)	12.8 ~ 13.2 mm	
ø 12.7	55.0 N•m (550 kgf•cm)	16.2 ~ 16.6 mm	
ø 15.88	65.0 N•m (650 kgf•cm)	19.3 ~ 19.7 mm	

After piping connection has completed, ensure there is no gas leakage.

- When tightening the flare nut, coat the flares (inner surface only) with refrigerant oil on the flares. Firstly, screw in 3-4 turns by hand.
  - × Ensure not to get oil on the screw part.
  - Refrigerant oil used is ether-based.
- Once the piping connections are completed, perform leakage inspection using nitrogen gas.
- When flared joints are reused, the flare part shall be re-fabricated.

Application for ether-based oil



**INCASE OF REUSING EXISTING REFRIGERANT PIPING**

- × **Observe the followings to decide reusing the existing refrigerant piping. Poor refrigerant piping could result in product failure.**
- In the circumstances listed below, do not reuse any refrigerant piping. Instead, make sure to install a new piping.
  - Heat insulation is not provided for either liquid-side or gas-side piping or both.
  - The existing refrigerant pipe has been left in an open condition.
  - The diameter and thickness of the existing refrigerant piping does not meet the requirement. (Refer to above tables)
  - The piping length and elevation does not meet the requirement. (Refer to above tables)
  - Use only R32 or R410A genuine branch pipe.
- Perform proper pump down for operated product before reuse piping.
- In the circumstances listed below, clean it thoroughly before reuse.
  - Pump down operation cannot be performed for the existing air conditioner.
  - The compressor has a failure history.
  - Oil color is darken. (ASTM 4.0 and above)
  - The existing air conditioner is gas/oil heat pump type.
- Do not reuse the flare to prevent gas leak. Make sure to install a new flare.
- If there is a welded part on the existing refrigerant piping, conduct a gas leak check on the welded part.
- Replace deteriorated heat insulating material with a new one. Heat insulating material is required for both liquid-side and gas

s-side piping.

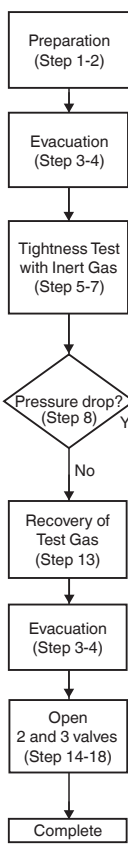


**6. AIR TIGHTNESS TEST ON THE REFRIGERATING SYSTEM**

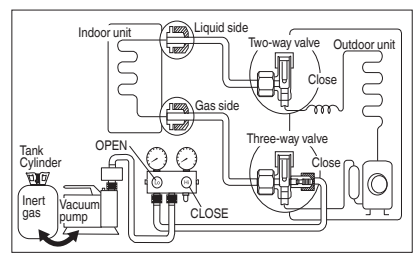
AIR PURGING METHOD IS PROHIBITED FOR R32 SYSTEM

- ⊘ Do not purge the air with refrigerants but use a vacuum pump to vacuum the installation.
- ⚠ There is no extra refrigerant in the outdoor unit for air purging.

- Before system is charged with refrigerant and before the refrigerating system is put into operation, below site test procedure and acceptance criteria shall be verified by the certified technicians, and/or the installer.
- Be sure to check whole system for gas leakage.



- 1) Connect a charging hose with a push pin to the Low side of a charging set and the service port of the 3-way valve.
- 2) Attach the gauge manifold set correctly and tightly. Make sure that both valves of the manifold gauge (low pressure and high pressure) is in close position.
- 3) Connect the center hose of the manifold gauge to a vacuum pump.
- 4) Turn on the power switch of the vacuum pump, then turn open the low side manifold gauge valve and make sure that the needle in the gauge moves from 0cmHg (0 MPa) to -76 cmHg (-0.1 MPa). This process continues for approximately ten minutes. Then close the low side manifold gauge valve.
- 5) Remove the vacuum pump from the centre hose and connect the center hose to cylinder of any applicable inert gas as test gas.
- 6) Charge test gas into the system and wait until the pressure within the system to reach min. 1.04MPa (10.4barg).
- 7) Wait and monitor the pressure reading on the gauges. Check if there is any pressure drop. Waiting time depends on the size of the system.
- 8) If there is any pressure drop, perform step 9-12. If there is no pressure drop, perform step 13.
- 9) Use Gas Leak Detector to check for leaks. Must use the detection equipment with a sensitivity of 5 grams per year of test gas or better.
- 10) Move the probe along the air conditioning system to check for leaks, and mark for repair.
- 11) Any leak detected and marked shall be repaired.
- 12) After repair, repeat evacuation steps 3-4 and tightness test steps 5-7. Check the pressure drop as in step 8.
- 13) If no leak, Recover the test gas. Perform evacuation of steps 3-4. Then proceed to step 14.
- 14) Disconnect the charging hose from the service port of the 3-way valve.
- 15) Tighten the service port caps of the 3-way valve at a torque of 18 N•m with a torque wrench.
- 16) Remove the valve caps of both of the 2-way valve and 3-way valve.
- 17) Open both of the valves, using a hexagonal wrench (4mm).
- 18) Mount back the valve caps onto the 2-way valve and the 3-way valve to complete this process.



- Notes:
- Recommended use of any of the following leak detector,
    - I) Universal Sniffer leak detector
    - II) Electronic halogen leak detector
    - III) Ultrasonic Leak Detector

**7. REGARDING REFRIGERANT FILLING**

Precautions during refrigerant filling

- Use tools that are designed specifically for R32, for pressure resistance and to prevent mixing impurities.
- Fill the refrigerant from the 3-way valve's service port on the liquid-side.

For filling and replacing all refrigerant (For refilling due to a leak)

- For refilling refrigerant, first collect all residual refrigerant and after vacuum dehydration using the vacuum pump. Refill the refrigerant according to the prescribed amount stated on the placard affixed to this unit.

Precautions after the pipes' connection have completed

- Ensure to open the 3-way valve after completing the piping installation, leak test and vacuuming. If it is closed during operation, it can lead to compressor failure.

1-12. Capacity Table

1. Cooling Capacity Performance Data  
Type U3 Series

TC :Cooling Capacity  
SHC :Sensible Heat Capacity  
IPT :Cooling Power Consumption  
unit : kW

Model	Power Source	Ambient Return Air		Outdoor air intake temp(°C D.B.)																
				25°C			30°C			35°C			40°C			43°C				
				DB	WB	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT
S-3650PU3E (S-3650PU3E(36)) U-36PZ3E5	220V-230V-240V 50Hz 1phase	23	16	3.6	3.2	0.622	3.4	2.6	0.731	3.2	2.5	0.834	3.0	2.5	0.949	2.9	2.5	1.02		
			19	4.0	2.4	0.619	3.8	1.9	0.727	3.6	1.7	0.830	3.4	1.6	0.945	3.3	1.5	1.01		
			22	4.5	1.5	0.610	4.2	0.9	0.717	4.0	0.8	0.818	3.7	0.8	0.931	3.6	0.7	0.996		
		25	16	3.6	3.6	0.622	3.4	3.4	0.731	3.2	3.2	0.834	3.0	3.0	0.949	2.9	2.9	1.02		
			19	4.0	2.9	0.619	3.8	2.9	0.727	3.6	2.7	0.830	3.4	2.6	0.945	3.3	2.6	1.01		
			22	4.5	2.0	0.610	4.2	2.0	0.717	4.0	2.0	0.818	3.7	1.8	0.931	3.6	1.8	0.996		
		27	16	3.6	3.6	0.622	3.4	3.4	0.731	3.2	3.2	0.834	3.0	3.0	0.949	2.9	2.9	1.02		
			19	4.0	3.4	0.619	3.8	3.5	0.727	3.6	3.2	0.830	3.4	3.2	0.945	3.3	3.1	1.01		
			22	4.5	2.7	0.610	4.2	2.5	0.717	4.0	2.4	0.818	3.7	2.3	0.931	3.6	2.3	0.996		
		29	16	3.6	3.6	0.622	3.4	3.4	0.731	3.2	3.2	0.834	3.0	3.0	0.949	2.9	2.9	1.02		
			19	4.0	4.0	0.619	3.8	3.8	0.727	3.6	3.6	0.830	3.4	3.4	0.945	3.3	3.3	1.01		
			22	4.5	3.2	0.610	4.2	3.0	0.717	4.0	2.9	0.818	3.7	2.9	0.931	3.6	2.8	0.996		
		32	16	3.6	3.6	0.622	3.4	3.4	0.731	3.2	3.2	0.834	3.0	3.0	0.949	2.9	2.9	1.02		
			19	4.0	4.0	0.619	3.8	3.8	0.727	3.6	3.6	0.830	3.4	3.4	0.945	3.3	3.3	1.01		
			22	4.5	3.9	0.610	4.2	3.8	0.717	4.0	3.7	0.818	3.7	3.7	0.931	3.6	3.6	0.996		
		S-3650PU3E (S-3650PU3E(50)) U-50PZ3E5	220V-230V-240V 50Hz 1phase	23	16	5.1	4.1	0.966	4.8	3.3	1.11	4.6	3.3	1.27	4.2	3.1	1.44	4.0	2.9	1.55
					19	5.6	3.1	0.972	5.3	2.4	1.12	5.0	2.2	1.28	4.6	2.0	1.45	4.3	2.0	1.55
					22	6.1	2.0	0.972	5.8	1.3	1.12	5.5	1.2	1.28	5.1	1.1	1.45	4.8	1.0	1.55
25	16			5.1	4.7	0.966	4.8	4.5	1.11	4.6	4.5	1.27	4.2	4.2	1.44	4.0	4.0	1.55		
	19			5.6	3.7	0.972	5.3	3.6	1.12	5.0	3.5	1.28	4.6	3.2	1.45	4.3	3.2	1.55		
	22			6.1	2.6	0.972	5.8	2.5	1.12	5.5	2.4	1.28	5.1	2.3	1.45	4.8	2.2	1.55		
27	16			5.1	5.1	0.966	4.8	4.8	1.11	4.6	4.6	1.27	4.2	4.2	1.44	4.0	4.0	1.55		
	19			5.6	4.3	0.972	5.3	4.2	1.12	5.0	4.0	1.28	4.6	3.8	1.45	4.3	3.8	1.55		
	22			6.1	3.2	0.972	5.8	3.1	1.12	5.5	3.0	1.28	5.1	2.9	1.45	4.8	2.8	1.55		
29	16			5.1	5.1	0.966	4.8	4.8	1.11	4.6	4.6	1.27	4.2	4.2	1.44	4.0	4.0	1.55		
	19			5.6	4.9	0.972	5.3	4.8	1.12	5.0	4.7	1.28	4.6	4.4	1.45	4.3	4.3	1.55		
	22			6.1	3.8	0.972	5.8	3.7	1.12	5.5	3.6	1.28	5.1	3.5	1.45	4.8	3.3	1.55		
32	16			5.1	5.1	0.966	4.8	4.8	1.11	4.6	4.6	1.27	4.2	4.2	1.44	4.0	4.0	1.55		
	19			5.6	5.6	0.972	5.3	5.3	1.12	5.0	5.0	1.28	4.6	4.6	1.45	4.3	4.3	1.55		
	22			6.1	4.7	0.972	5.8	4.6	1.12	5.5	4.5	1.28	5.1	4.3	1.45	4.8	4.2	1.55		
S-6071PU3E (S-6071PU3E(60)) U-60PZ3E5	220V-230V-240V 50Hz 1phase			23	16	6.2	4.9	1.26	5.9	4.1	1.42	5.4	3.8	1.59	5.0	3.7	1.85	4.8	3.5	1.99
					19	6.8	3.7	1.27	6.5	2.8	1.44	6.0	2.7	1.61	5.5	2.4	1.87	5.2	2.4	2.01
					22	7.6	2.5	1.28	7.2	1.7	1.45	6.7	1.5	1.62	6.2	1.3	1.88	5.9	1.1	2.03
		25	16	6.2	5.7	1.26	5.9	5.6	1.42	5.4	5.3	1.59	5.0	5.0	1.85	4.8	4.8	1.99		
			19	6.8	4.5	1.27	6.5	4.3	1.44	6.0	4.2	1.61	5.5	3.9	1.87	5.2	3.9	2.01		
			22	7.6	3.3	1.28	7.2	3.2	1.45	6.7	3.0	1.62	6.2	2.8	1.88	5.9	2.6	2.03		
		27	16	6.2	6.2	1.26	5.9	5.9	1.42	5.4	5.4	1.59	5.0	5.0	1.85	4.8	4.8	1.99		
			19	6.8	5.3	1.27	6.5	5.1	1.44	6.0	4.9	1.61	5.5	4.7	1.87	5.2	4.6	2.01		
			22	7.6	4.0	1.28	7.2	3.9	1.45	6.7	3.8	1.62	6.2	3.5	1.88	5.9	3.4	2.03		
		29	16	6.2	6.2	1.26	5.9	5.9	1.42	5.4	5.4	1.59	5.0	5.0	1.85	4.8	4.8	1.99		
			19	6.8	6.0	1.27	6.5	5.8	1.44	6.0	5.7	1.61	5.5	5.5	1.87	5.2	5.2	2.01		
			22	7.6	4.8	1.28	7.2	4.7	1.45	6.7	4.5	1.62	6.2	4.3	1.88	5.9	4.2	2.03		
		32	16	6.2	6.2	1.26	5.9	5.9	1.42	5.4	5.4	1.59	5.0	5.0	1.85	4.8	4.8	1.99		
			19	6.8	6.8	1.27	6.5	6.5	1.44	6.0	6.0	1.61	5.5	5.5	1.87	5.2	5.2	2.01		
			22	7.6	5.9	1.28	7.2	5.8	1.45	6.7	5.7	1.62	6.2	5.5	1.88	5.9	5.3	2.03		
		S-6071PU3E (S-6071PU3E(71)) U-71PZ3E5	220V-230V-240V 50Hz 1phase	23	16	7.1	5.5	1.69	6.7	4.4	1.89	6.4	4.4	2.14	5.7	4.0	2.34	5.2	3.8	2.42
					19	7.9	4.2	1.71	7.4	3.2	1.92	7.1	3.1	2.17	6.3	2.8	2.37	5.7	2.5	2.45
					22	8.8	2.9	1.75	8.3	1.9	1.96	8.0	1.8	2.21	7.1	1.5	2.41	6.4	1.3	2.49
25	16			7.1	6.3	1.69	6.7	6.1	1.89	6.4	6.0	2.14	5.7	5.6	2.34	5.2	5.2	2.42		
	19			7.9	5.0	1.71	7.4	4.9	1.92	7.1	4.7	2.17	6.3	4.4	2.37	5.7	4.1	2.45		
	22			8.8	3.8	1.75	8.3	3.5	1.96	8.0	3.5	2.21	7.1	3.1	2.41	6.4	2.9	2.49		
27	16			7.1	7.1	1.69	6.7	6.7	1.89	6.4	6.4	2.14	5.7	5.7	2.34	5.2	5.2	2.42		
	19			7.9	5.8	1.71	7.4	5.7	1.92	7.1	5.5	2.17	6.3	5.2	2.37	5.7	5.0	2.45		
	22			8.8	4.5	1.75	8.3	4.4	1.96	8.0	4.2	2.21	7.1	3.9	2.41	6.4	3.7	2.49		
29	16			7.1	7.1	1.69	6.7	6.7	1.89	6.4	6.4	2.14	5.7	5.7	2.34	5.2	5.2	2.42		
	19			7.9	6.6	1.71	7.4	6.5	1.92	7.1	6.3	2.17	6.3	6.0	2.37	5.7	5.7	2.45		
	22			8.8	5.4	1.75	8.3	5.1	1.96	8.0	5.1	2.21	7.1	4.7	2.41	6.4	4.5	2.49		
32	16			7.1	7.1	1.69	6.7	6.7	1.89	6.4	6.4	2.14	5.7	5.7	2.34	5.2	5.2	2.42		
	19			7.9	7.9	1.71	7.4	7.4	1.92	7.1	7.1	2.17	6.3	6.3	2.37	5.7	5.7	2.45		
	22			8.8	6.6	1.75	8.3	6.4	1.96	8.0	6.3	2.21	7.1	5.9	2.41	6.4	5.7	2.49		

1-12. Capacity Table

1. Cooling Capacity Performance Data  
Type F3 Series

TC :Cooling Capacity  
SHC :Sensible Heat Capacity  
IPT :Cooling Power Consumption  
unit : kW

Model	Power Source	Ambient Return Air		Outdoor air intake temp(°C D.B.)																
				25°C			30°C			35°C			40°C			43°C				
				DB	WB	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT
S-3650PF3E (S-3650PF3E(36)) U-36PZ3E5	220V-230V-240V 50Hz 1phase	23	16	3.4	2.9	0.675	3.2	2.3	0.793	3.0	2.2	0.905	2.9	2.2	1.03	2.8	2.1	1.10		
			19	3.8	2.1	0.671	3.6	1.5	0.789	3.4	1.4	0.900	3.2	1.3	1.02	3.1	1.3	1.09		
			22	4.2	1.2	0.662	4.0	0.8	0.777	3.8	0.6	0.887	3.5	0.6	1.01	3.4	0.5	1.08		
		25	16	3.4	3.4	0.675	3.2	3.2	0.793	3.0	3.0	0.905	2.9	2.9	1.03	2.8	2.8	1.10		
			19	3.8	2.6	0.671	3.6	2.5	0.789	3.4	2.4	0.900	3.2	2.3	1.02	3.1	2.4	1.09		
			22	4.2	1.8	0.662	4.0	1.8	0.777	3.8	1.6	0.887	3.5	1.6	1.01	3.4	1.5	1.08		
		27	16	3.4	3.4	0.675	3.2	3.2	0.793	3.0	3.0	0.905	2.9	2.9	1.03	2.8	2.8	1.10		
			19	3.8	3.1	0.671	3.6	3.0	0.789	3.4	2.9	0.900	3.2	2.9	1.02	3.1	2.9	1.09		
			22	4.2	2.3	0.662	4.0	2.3	0.777	3.8	2.1	0.887	3.5	2.1	1.01	3.4	2.0	1.08		
		29	16	3.4	3.4	0.675	3.2	3.2	0.793	3.0	3.0	0.905	2.9	2.9	1.03	2.8	2.8	1.10		
			19	3.8	3.6	0.671	3.6	3.6	0.789	3.4	3.4	0.900	3.2	3.2	1.02	3.1	3.1	1.09		
			22	4.2	2.8	0.662	4.0	2.8	0.777	3.8	2.6	0.887	3.5	2.7	1.01	3.4	2.5	1.08		
		32	16	3.4	3.4	0.675	3.2	3.2	0.793	3.0	3.0	0.905	2.9	2.9	1.03	2.8	2.8	1.10		
			19	3.8	3.8	0.671	3.6	3.6	0.789	3.4	3.4	0.900	3.2	3.2	1.02	3.1	3.1	1.09		
			22	4.2	3.6	0.662	4.0	3.5	0.777	3.8	3.4	0.887	3.5	3.4	1.01	3.4	3.3	1.08		
		S-3650PF3E (S-3650PF3E(50)) U-50PZ3E5	220V-230V-240V 50Hz 1phase	23	16	5.1	4.0	1.36	4.8	3.1	1.57	4.6	3.1	1.79	4.2	3.0	2.03	4.0	2.7	2.17
					19	5.6	2.9	1.37	5.3	2.2	1.58	5.0	2.0	1.80	4.6	1.9	2.04	4.3	1.9	2.19
					22	6.1	1.9	1.37	5.8	1.2	1.58	5.5	1.1	1.80	5.1	0.9	2.04	4.8	0.8	2.19
				25	16	5.1	4.6	1.36	4.8	4.3	1.57	4.6	4.3	1.79	4.2	4.2	2.03	4.0	3.9	2.17
					19	5.6	3.5	1.37	5.3	3.4	1.58	5.0	3.2	1.80	4.6	3.1	2.04	4.3	3.0	2.19
					22	6.1	2.5	1.37	5.8	2.3	1.58	5.5	2.2	1.80	5.1	2.1	2.04	4.8	2.0	2.19
				27	16	5.1	5.1	1.36	4.8	4.8	1.57	4.6	4.6	1.79	4.2	4.2	2.03	4.0	4.0	2.17
					19	5.6	4.2	1.37	5.3	4.1	1.58	5.0	3.9	1.80	4.6	3.7	2.04	4.3	3.7	2.19
					22	6.1	3.1	1.37	5.8	2.9	1.58	5.5	2.8	1.80	5.1	2.7	2.04	4.8	2.6	2.19
29	16			5.1	5.1	1.36	4.8	4.8	1.57	4.6	4.6	1.79	4.2	4.2	2.03	4.0	4.0	2.17		
	19			5.6	4.7	1.37	5.3	4.6	1.58	5.0	4.4	1.80	4.6	4.3	2.04	4.3	4.3	2.19		
	22			6.1	3.7	1.37	5.8	3.5	1.58	5.5	3.4	1.80	5.1	3.3	2.04	4.8	3.2	2.19		
32	16			5.1	5.1	1.36	4.8	4.8	1.57	4.6	4.6	1.79	4.2	4.2	2.03	4.0	4.0	2.17		
	19			5.6	5.6	1.37	5.3	5.3	1.58	5.0	5.0	1.80	4.6	4.6	2.04	4.3	4.3	2.19		
	22			6.1	4.5	1.37	5.8	4.4	1.58	5.5	4.3	1.80	5.1	4.2	2.04	4.8	4.0	2.19		
S-6071PF3E (S-6071PF3E(60)) U-60PZ3E5	220V-230V-240V 50Hz 1phase			23	16	5.9	4.7	1.26	5.6	3.7	1.42	5.2	3.6	1.59	4.7	3.4	1.85	4.5	3.3	1.99
					19	6.5	3.5	1.27	6.1	2.5	1.44	5.7	2.4	1.61	5.2	2.2	1.87	5.0	2.0	2.01
					22	7.3	2.3	1.28	6.8	1.4	1.45	6.4	1.2	1.62	5.9	1.0	1.88	5.6	0.9	2.03
				25	16	5.9	5.5	1.26	5.6	5.3	1.42	5.2	5.1	1.59	4.7	4.7	1.85	4.5	4.5	1.99
					19	6.5	4.2	1.27	6.1	4.0	1.44	5.7	3.9	1.61	5.2	3.7	1.87	5.0	3.6	2.01
					22	7.3	3.0	1.28	6.8	2.9	1.45	6.4	2.7	1.62	5.9	2.5	1.88	5.6	2.4	2.03
				27	16	5.9	5.9	1.26	5.6	5.6	1.42	5.2	5.2	1.59	4.7	4.7	1.85	4.5	4.5	1.99
					19	6.5	5.0	1.27	6.1	4.8	1.44	5.7	4.7	1.61	5.2	4.5	1.87	5.0	4.3	2.01
					22	7.3	3.8	1.28	6.8	3.6	1.45	6.4	3.5	1.62	5.9	3.3	1.88	5.6	3.2	2.03
		29	16	5.9	5.9	1.26	5.6	5.6	1.42	5.2	5.2	1.59	4.7	4.7	1.85	4.5	4.5	1.99		
			19	6.5	5.8	1.27	6.1	5.6	1.44	5.7	5.5	1.61	5.2	5.2	1.87	5.0	5.0	2.01		
			22	7.3	4.6	1.28	6.8	4.4	1.45	6.4	4.3	1.62	5.9	4.1	1.88	5.6	4.0	2.03		
		32	16	5.9	5.9	1.26	5.6	5.6	1.42	5.2	5.2	1.59	4.7	4.7	1.85	4.5	4.5	1.99		
			19	6.5	6.5	1.27	6.1	6.1	1.44	5.7	5.7	1.61	5.2	5.2	1.87	5.0	5.0	2.01		
			22	7.3	5.7	1.28	6.8	5.6	1.45	6.4	5.4	1.62	5.9	5.2	1.88	5.6	5.1	2.03		
		S-6071PF3E (S-6071PF3E(71)) U-71PZ3E5	220V-230V-240V 50Hz 1phase	23	16	6.8	5.1	1.66	6.5	4.2	1.87	6.2	4.0	2.11	5.5	3.7	2.30	5.0	3.5	2.38
					19	7.5	3.9	1.69	7.1	3.0	1.90	6.8	2.8	2.14	6.1	2.5	2.34	5.5	2.2	2.42
					22	8.4	2.7	1.72	8.0	1.8	1.93	7.6	1.7	2.17	6.8	1.3	2.38	6.2	1.1	2.46
				25	16	6.8	5.9	1.66	6.5	5.8	1.87	6.2	5.6	2.11	5.5	5.2	2.30	5.0	5.0	2.38
					19	7.5	4.7	1.69	7.1	4.5	1.90	6.8	4.3	2.14	6.1	4.1	2.34	5.5	3.8	2.42
					22	8.4	3.4	1.72	8.0	3.3	1.93	7.6	3.2	2.17	6.8	2.8	2.38	6.2	2.6	2.46
				27	16	6.8	6.7	1.66	6.5	6.5	1.87	6.2	6.2	2.11	5.5	5.5	2.30	5.0	5.0	2.38
					19	7.5	5.4	1.69	7.1	5.3	1.90	6.8	5.1	2.14	6.1	4.8	2.34	5.5	4.5	2.42
					22	8.4	4.2	1.72	8.0	4.1	1.93	7.6	3.9	2.17	6.8	3.5	2.38	6.2	3.3	2.46
29	16			6.8	6.8	1.66	6.5	6.5	1.87	6.2	6.2	2.11	5.5	5.5	2.30	5.0	5.0	2.38		
	19			7.5	6.2	1.69	7.1	6.0	1.90	6.8	5.8	2.14	6.1	5.6	2.34	5.5	5.3	2.42		
	22			8.4	4.9	1.72	8.0	4.8	1.93	7.6	4.7	2.17	6.8	4.3	2.38	6.2	4.2	2.46		
32	16			6.8	6.8	1.66	6.5	6.5	1.87	6.2	6.2	2.11	5.5	5.5	2.30	5.0	5.0	2.38		
	19			7.5	7.3	1.69	7.1	7.1	1.90	6.8	6.8	2.14	6.1	6.1	2.34	5.5	5.5	2.42		
	22			8.4	6.1	1.72	8.0	6.0	1.93	7.6	5.8	2.17	6.8	5.4	2.38	6.2	5.3	2.46		

## 1-12. Capacity Table

### 2. Heating Capacity Performance Data Type U3 Series

TC :Heating Capacity

IPT :Heating Power Consumption

unit : kW

Model	Power Source	Ambient Return Air DB	Outdoor air intake temp(°C W.B.)									
			-16°C		-8°C		6°C		10°C		15°C	
			TC	IPT	TC	IPT	TC	IPT	TC	IPT	TC	IPT
S-3650PU3E (S-3650PU3E(36)) U-36PZ3E5	220V-230V-240V 50Hz 1phase	16	2.6	0.817	3.3	0.877	4.7	1.00	5.1	1.04	5.6	1.10
		20	2.5	0.869	3.2	0.933	4.6	1.06	5.0	1.10	5.6	1.17
		24	2.5	0.924	3.2	0.992	4.5	1.13	4.9	1.17	5.5	1.24
S-3650PU3E (S-3650PU3E(50)) U-50PZ3E5	220V-230V-240V 50Hz 1phase	16	3.7	1.35	4.7	1.50	6.5	1.73	7.0	1.83	7.7	1.92
		20	3.6	1.44	4.6	1.60	6.4	1.84	6.9	1.94	7.6	2.05
		24	3.6	1.52	4.5	1.70	6.3	1.95	6.8	2.06	7.4	2.15
S-6071PU3E (S-6071PU3E(60)) U-60PZ3E5	220V-230V-240V 50Hz 1phase	16	4.6	1.46	5.5	1.69	7.1	2.09	7.7	2.23	8.1	2.11
		20	4.6	1.54	5.4	1.78	7.0	2.20	7.6	2.35	8.0	2.11
		24	4.5	1.65	5.3	1.91	6.9	2.35	7.4	2.35	7.9	2.11
S-6071PU3E (S-6071PU3E(71)) U-71PZ3E5	220V-230V-240V 50Hz 1phase	16	4.7	1.66	5.8	1.88	8.2	2.30	8.8	2.40	8.9	2.25
		20	4.7	1.78	5.8	2.02	8.1	2.40	8.7	2.50	8.8	2.25
		24	4.5	1.90	5.6	2.16	7.8	2.50	8.2	2.50	8.6	2.25

**1-12. Capacity Table**

**2. Heating Capacity Performance Data  
Type F3 Series**

TC :Heating Capacity  
IPT :Heating Power Consumption  
unit : kW

Model	Power Source	Ambient Return Air DB	Outdoor air intake temp(°C W.B.)									
			-16°C		-8°C		6°C		10°C		15°C	
			TC	IPT	TC	IPT	TC	IPT	TC	IPT	TC	IPT
S-3650PF3E (S-3650PF3E(36)) U-36PZ3E5	220V-230V-240V 50Hz 1phase	16	2.6	1.01	3.3	1.08	4.7	1.23	5.1	1.28	5.6	1.35
		20	2.5	1.07	3.2	1.15	4.6	1.31	5.0	1.36	5.6	1.44
		24	2.5	1.14	3.2	1.23	4.5	1.39	4.9	1.45	5.5	1.53
S-3650PF3E (S-3650PF3E(50)) U-50PZ3E5	220V-230V-240V 50Hz 1phase	16	3.4	1.41	4.3	1.58	6.0	1.81	6.5	1.92	7.1	2.02
		20	3.4	1.51	4.3	1.68	5.9	1.93	6.4	2.04	7.0	2.15
		24	3.3	1.60	4.2	1.78	5.8	2.05	6.2	2.17	6.8	2.26
S-6071PF3E (S-6071PF3E(60)) U-60PZ3E5	220V-230V-240V 50Hz 1phase	16	4.6	1.65	5.5	1.91	7.1	2.36	7.7	2.52	8.1	2.38
		20	4.6	1.74	5.4	2.01	7.0	2.48	7.6	2.65	8.0	2.38
		24	4.5	1.86	5.3	2.15	6.9	2.65	7.4	2.65	7.9	2.38
S-6071PF3E (S-6071PF3E(71)) U-71PZ3E5	220V-230V-240V 50Hz 1phase	16	4.7	1.85	5.8	2.10	8.2	2.56	8.8	2.66	8.9	2.50
		20	4.7	1.98	5.8	2.24	8.1	2.67	8.7	2.78	8.8	2.50
		24	4.5	2.12	5.6	2.40	7.8	2.78	8.2	2.78	8.6	2.50











– MEMO –

## 2. TEST RUN

<b>2-1. Preparing for Test Run</b> .....	<b>2-1-1</b>
<b>2-2. Precautions</b> .....	<b>2-2-1</b>
<b>2-3. Indoor Units</b> .....	<b>2-3-1-1</b>
<b>■ Type U3, Type F3</b>	
2-3-1-1. Caution .....	2-3-1-1
2-3-1-2. Test Run Procedure .....	2-3-1-1
2-3-1-3. Items to Check Before the Test Run .....	2-3-1-1
2-3-1-4. Test Run Using the Remote Controller .....	2-3-1-2
2-3-1-5. Contents of Remote Controller Switch Alarm Display .....	2-3-1-3
2-3-1-6. System Control .....	2-3-1-7
<b>2-4. Outdoor Units</b> .....	<b>2-4-1-1</b>
2-4-1-1. CHECKS AFTER INSTALLATION HAVE COMPLETED .....	2-4-1-1
2-4-1-2. REGARDING DELIVERY TO THE CUSTOMER .....	2-4-1-1
2-4-1-3. Caution for Pump-Down .....	2-4-1-2

## 2-1. Preparing for Test Run

### U-36PZ3E5, U-50PZ3E5, U-60PZ3E5, U-71PZ3E5

Check Before Test Run
-----------------------

	Content check
Power supply cable Connection cable between indoor and outdoor unit Earth wire	<ul style="list-style-type: none"> <li>• Is the wire set up and connected as described in the instructions? Check for any phase sequence.</li> <li>• Are the wire connection's screws loose?</li> <li>• Is the open and close device / leakage breaker installed?</li> <li>• Is the power supply cable's thickness and length appropriately measured as described in the instructions?</li> <li>• Is it earthed (grounded)?</li> <li>• Check that the insulation resistant value is more than 1MΩ. Use the 500 V mega-testers to measure the insulation. Do not use the mega-tester for any other circuit except for voltage of 220-230-240V~.</li> <li>• Are the wire connections for the indoor/outdoor units connected as described in the instructions? Are there any looped wires?</li> </ul>
Refrigerant pipe	<ul style="list-style-type: none"> <li>• Is the piping installed as described in the instructions?</li> <li>• Are the pipes sizes appropriate?</li> <li>• Does the pipe's length adhere to the specifications?</li> <li>• Is the branch pipe slant being appropriately done as described in the instructions?</li> <li>• Was vacuum removal sufficiently carried out?</li> <li>• Was the leak tightness test carried out with nitrogen gas? Use the testing pressure of 4.15 MPa.</li> <li>• Is the piping insulation material appropriately installed? (Insulation material is necessary for both gas and liquid piping.)</li> <li>• Is the 2/3-way valve for the liquid side and gas side open?</li> </ul>

- Never switch the power supply ON until the installation has completed.
- Supply electrical current through all indoor units and check the voltage.
- Supply electrical current through all the outdoor units and check each inter-phase voltage.
- Before the test run, ensure to check that the 2/3-way valve is open. Operating while the valve is closed causes the compressor to fail.

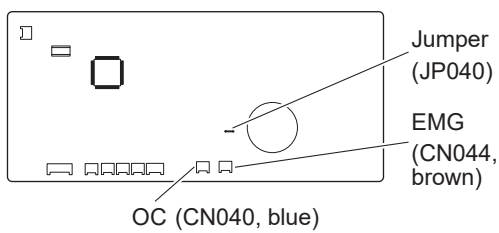
**2-2. Precautions**

- Request that the customer be present when the test run is performed.  
At this time, explain the operation manual and have the customer perform the actual steps.

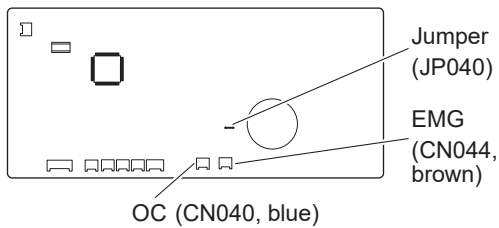
**INDOOR UNIT CONTROL PCB**

- Check that the 220 – 240 VAC power is not connected to the inter-unit control wiring connector terminal.  
\*If 220 – 240 VAC is accidentally applied, the indoor unit control PCB fuse will blow in order to protect the PCB.  
In this case, make the wiring correctly.  
Then disconnect the 2P connectors (OC) that are connected to the indoor unit control PCB, and replace them with 2P connectors (EMG).  
If operation is still not possible after changing the brown connectors, cut the jumper on the indoor unit control PCB. (Be sure to turn the power OFF before performing this work.)
- Be sure to set the external static pressure before performing the test run.

**Type U3**



**Type F3**



- Be sure to set the external static pressure before performing the test run.

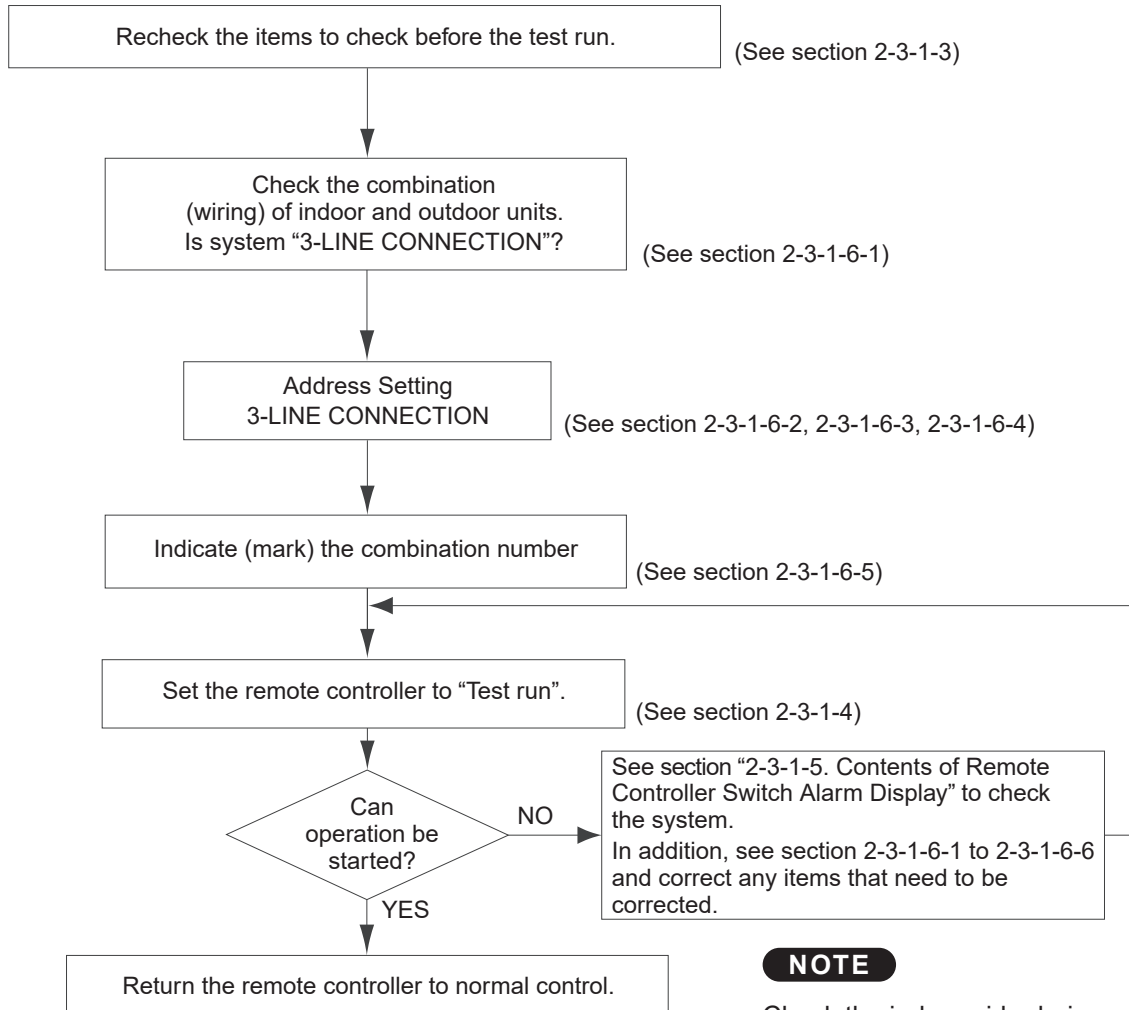
## 2-3. Indoor Units

### ■ Type U3, Type F3

#### 2-3-1-1. Caution

- The indoor and outdoor unit control PCB utilizes a semiconductor memory element (EEPROM). The settings required for operation were made at the time of shipment. Only the correct combinations of indoor and outdoor units can be used.
- This test run section describes primarily the procedure when using the wired remote controller.

#### 2-3-1-2. Test Run Procedure



#### **NOTE**

Check the indoor-side drainage.

#### 2-3-1-3. Items to Check Before the Test Run

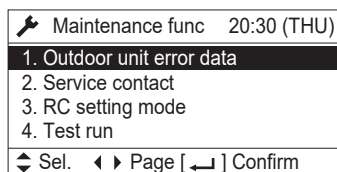
- (1) Turn the remote power switch ON at least 5 hours in advance in order to energize.
- (2) Fully open the closed valves on the liquid tubing and gas tubing sides.
- (3) Separate the power supply in accordance with the types of system.

### 2-3-1-4. Test Run Using the Remote Controller

#### CZ-RTC5B (High-spec wired remote controller)

- Keep pressing the , and buttons simultaneously for 4 or more seconds.

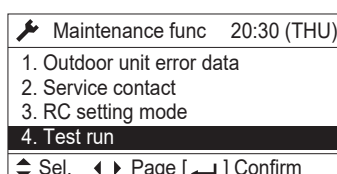
The “Maintenance func” screen appears on the LCD display.



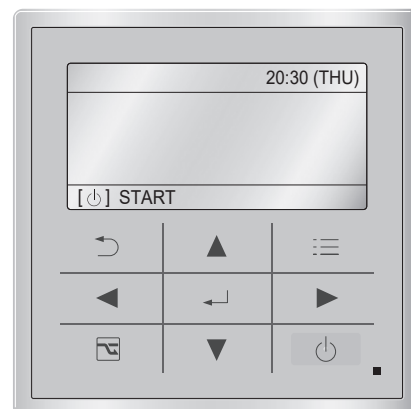
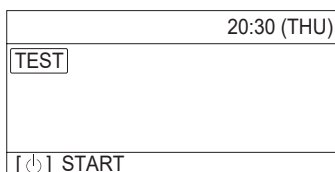
- Press the or button to see each menu.

If you wish to see the next screen instantly, press the or button.

Select “4. Test run” on the LCD display and press the button.

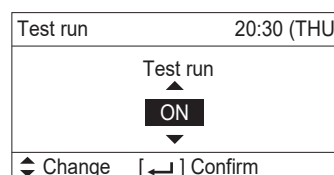


- Press the button. “TEST” will be displayed on the LCD display.

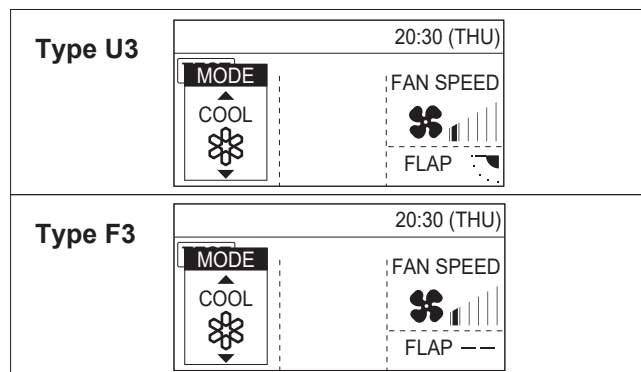


CZ-RTC5B

Change the display from “OFF” to “ON” by pressing the or button. Then press the button.



- Press the button. Test run will be started. Test run setting mode screen appears on the LCD display.



#### CZ-RTC4 (Timer remote controller)

- Press the remote controller button for 4 seconds or longer. Then press the button.

- “TEST” appears on the LCD display while the test run is in progress.
- The temperature cannot be adjusted when in Test Run mode. (This mode places a heavy load on the machines. Therefore use it only when performing the test run.)

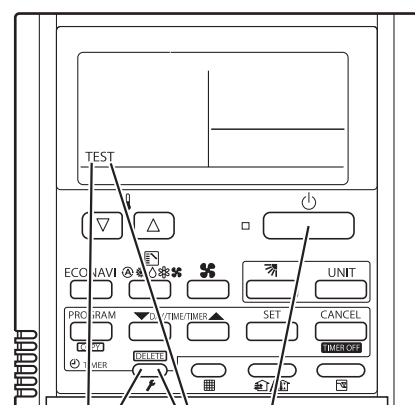
- The test run can be performed using the HEAT, COOL, or FAN operation modes.

**NOTE**

The outdoor units will not operate for approximately 3 minutes after the power is turned ON and after operation is stopped.

- If correct operation is not possible, a code is displayed on the remote controller LCD display. (Regarding the alarm contents, see section “2-3-1-5. Contents of Remote Controller Switch Alarm Display”)
- After the test run is completed, press the button again. Check that “TEST” disappears from the LCD display. (To prevent continuous test runs, this remote controller includes a timer function that cancels the test run after 60 minutes.)

\* If the test run is performed using the wired remote controller, operation is possible even if the cassette-type ceiling panel has not been installed. (“P09” display does not occur.)



(1) (4) (1) CZ-RTC4

## 2-3-1-5. Contents of Remote Controller Switch Alarm Display

U-36PZ3E5, U-50PZ3E5, U-60PZ3E5, U-71PZ3E5

ON: ○ Blinking: ☼ OFF: ●

Abnormal display	Wireless remote controller receiver display			Alarm contents	Error location
	Operation	Timer	Standby		
Remote controller • Indoor Unit	E01	Operating lamp blinking ☼ ● ●		• Faulty remote controller	• Replace the remote controller
				• Disconnection / Contact failure of remote controller wiring	• Correct the remote controller wiring
				• CHK (check) pins on the indoor unit control PCB are short circuited	• Remove the short
	E02			• In the case of non-group control : Power supply OFF of outdoor unit Disconnection / Contact failure of inter-unit wiring	• Execute auto address setting
				• In the case of group control : Auto address operation was not carried out	
	E03			• Faulty setting of EEPROM (IC010) on indoor unit	• Replace the indoor unit EEPROM
				• Faulty remote controller	• Replace the remote controller
	E04	Standby lamp blinking ● ● ☼		• Wrong wiring of remote controller	• Correct the remote controller wiring
				• Error in indoor unit receiving signal from remote controller (central)	• Check the indoor unit control PCB • Check the remote controller wiring • Check the inter-unit control wiring
	E08			• Disconnection / Contact failure of inter-unit wiring	• Check the electrical connection of inter-unit control wiring
				• Faulty indoor unit control PCB	• Replace the indoor unit control PCB
	E09			• Faulty outdoor unit control PCB	• Replace the outdoor unit control PCB
				• Communication circuit fuse (F302) on indoor unit control PCB opened	• Check the electrical connection of fuse (F302) on indoor unit control PCB In the case of the fuse opened on an indoor unit control PCB, after correcting wiring connection, it substitutes an EMG plug for OC plug
	E15	Operating lamp blinking		• Fuse on outdoor unit control PCB opened Since failure of an outdoor fan motor is considered as a cause, both outdoor unit control PCB and outdoor unit fan motor are exchanged simultaneously	• In the case of the fuse opened on an outdoor unit control PCB, replace both outdoor unit control PCB (CR/HIC) and outdoor unit fan motor simultaneously
				• Duplication of indoor unit address setting	• Indoor unit address re-setting
E16	☼ ● ●		• Error because of more than one remote controller setting to main	• Correct the setting	
			• Auto Address Alarm • The total capacity of indoor units is too low	• Check the inter-unit control wiring • Check the indoor and outdoor unit control PCB • Address re-setting after correcting the combination of units	
E18	☼ ● ●		• Auto Address Alarm • The total capacity of indoor units is too high	• Check the inter-unit control wiring • Check the indoor and outdoor unit control PCB • Address re-setting after correcting the combination of units	
			• Disconnection of wiring between main unit and additional units • Contact failure of wiring • Faulty indoor unit control PCB (main or addition)	• Correct the wiring connection • Replace the wiring • Replace the indoor unit control PCB	
F01	Operating and timer lamp blinking alternately ☼ ☼ ●		• Indoor heat exchanger temperature sensor (E1) trouble	• Check the indoor unit heat exchanger temperature sensor (E1) • Check the indoor unit control PCB	
F02			• Indoor heat exchanger temperature sensor (E2) trouble	• Check the indoor unit heat exchanger temperature sensor (E2) • Check the indoor unit control PCB	
F10			• Indoor air temperature sensor (TA) trouble	• Check the indoor unit air temperature sensor (TA) • Check the indoor unit control PCB	
F29	Operating and timer lamp blinking simultaneously ☼ ☼ ●		• Indoor unit EEPROM trouble	• Check the indoor unit EEPROM • Check the indoor unit control PCB	
L02	Operating and standby lamps blinking simultaneously ☼ ● ☼		• Setting error, indoor / outdoor unit type / model mismatched	• Address re-setting after correcting the combination of units	
L03			• Duplication of main indoor unit address in group control	• Correct the group (main and addition)	
L07			• Group control wiring is connected to individual control indoor unit	• Correct the indoor unit address	
L08			• Indoor unit address is not set	• Correct the indoor unit address	
L09			• Indoor unit capacity is not set	• Correct the capacity setting of indoor units	



Abnormal display		Wireless remote controller receiver display			Alarm contents	Error location
		Operation	Timer	Standby		
Remote controller • Indoor Unit	P01	Timer and standby lamp blinking alternately			<ul style="list-style-type: none"> <li>Indoor unit fan motor locked</li> <li>Indoor unit fan motor layer short</li> <li>Contact failure in thermostat protector circuit</li> </ul>	<ul style="list-style-type: none"> <li>Remove the cause</li> <li>Replace the fan motor</li> <li>Correct the wiring</li> </ul>
	P09				<ul style="list-style-type: none"> <li>Faulty wiring connections of (ceiling) indoor unit panel</li> </ul>	<ul style="list-style-type: none"> <li>Correct the wiring connection</li> <li>Correct insertion direction of connector (Hook is outside)</li> </ul>
	P10				<ul style="list-style-type: none"> <li>Faulty drain pump</li> <li>Drainage failure</li> <li>Contact failure of float switch wiring</li> </ul>	<ul style="list-style-type: none"> <li>Repair / Replace</li> <li>Correct</li> <li>Correct the wiring</li> </ul>
	P11				<ul style="list-style-type: none"> <li>Faulty drain pump</li> <li>Drain pump locked</li> </ul>	<ul style="list-style-type: none"> <li>Repair / Replace</li> <li>Remove the cause</li> </ul>
	P12				<ul style="list-style-type: none"> <li>Indoor unit fan motor locked</li> <li>Faulty wiring connections of indoor unit fan motor</li> </ul>	<ul style="list-style-type: none"> <li>Remove the cause</li> <li>Correct the wiring</li> </ul>
	P31				<ul style="list-style-type: none"> <li>Indoor unit in group control trouble</li> </ul>	<ul style="list-style-type: none"> <li>Repair indoor unit which blinking alarm</li> </ul>

Abnormal display	Wireless remote controller receiver display			Alarm contents	Error location
	Operation	Timer	Standby		
E12	☼	⏸		• Auto address setting start is prohibited	• Check the inter-unit control wiring
E14	☼	●	●	• Duplication of main unit in group control	• Check the inter-unit control wiring • Check the indoor unit combination
E15				Auto address alarm <ul style="list-style-type: none"> <li>• The total capacity of indoor units are too low</li> <li>• The total capacity of indoor units are too high</li> <li>• The number of indoor units is two or more</li> </ul>	• Check the inter-unit control wiring • Check the indoor and outdoor unit control PCB
E16	☼		☼		
E22	●	●	☼	• wrong wiring trouble • Protection resistor on outdoor unit control PCB opened	• Check the inter-unit control wiring / power supply line • Substitution of an EMG connector on outdoor unit control PCB (CR)
E24				• Outdoor unit communication error	• Check the outdoor unit control PCB
E29				• Outdoor unit communication error	• Check the outdoor unit control PCB
F04	☼	☼		• Compressor discharge temperature sensor (TD) trouble	• Check the compressor discharge temperature sensor (TD) • Check the outdoor unit control PCB
F06	☼	☼		• Outdoor heat exchanger temperature sensor (C1) trouble	• Check the outdoor unit heat exchanger temperature sensor (C1) • Check the outdoor unit control PCB
F08	☼	☼	○	• Outdoor air temperature sensor (TO) trouble	• Check the outdoor air temperature sensor (TO) • Check the outdoor unit control PCB
H01				• Primary (input) overcurrent detected	• Check the refrigerant cycle (abnormal overload operation) • Check the outdoor unit control PCB • Check the power supply
H02	●	☼	●	• PAM trouble	• Check the outdoor unit control PCB • Compressor locked • Check the power supply
H03				• Primary current CT sensor failure	• Check the outdoor unit control PCB
L18	☼	○	☼	• 4-way valve locked trouble / operation failure	• Check the 4-way valve • Check the 4-way valve wiring • Check the outdoor unit control PCB

Abnormal display	Wireless remote controller receiver display			Alarm contents	Error location
	Operation ☼	Timer ⌚	Standby ☼		
Outdoor Unit	P03			• Compressor discharge temperature trouble	• Check the refrigerant cycle (gas leak) • Trouble with the electronic expansion valve • Check the discharge temperature sensor (TD)
	P04	Operating and standby lamp blinking alternately		• Compressor discharge pressure trouble	• Check the refrigerant cycle • Valve blockage • Heat exchanger obstruction
	P05		☼ ● ☼	• Open phase detected • AC power supply trouble	• Check the power supply • Check the reactor wiring • Check the outdoor unit control PCB • Check the compressor wiring
	P07			• HIC(IPM) temperature trouble	• Check the outdoor unit control PCB • Check the HIC • Compressor locked • Valve blockage
	P13	Timer and standby lamp blinking alternately	● ☼ ☼	• Valve error • Refrigerant circuit error • Wrong installation for refrigerant piping and wiring	• Valve blockage • Check the refrigerant circuit • Check the refrigerant piping and wiring installation
	P15			• Insufficient gas level detected	• Check the refrigerant cycle (gas leak) • Trouble with the electronic expansion valve • Valve (or refrigerant circuit) blockage
	P16	Operating and standby lamp blinking alternately		• Compressor overcurrent trouble	• Layer short on the compressor • Compressor locked • Check the outdoor unit control PCB
	P22			• Outdoor unit fan motor trouble • Outdoor unit fan trouble	• Check the outdoor unit fan motor • Check the outdoor unit control PCB
	P29	☼ ● ☼		• Inverter compressor trouble	• Layer short on the compressor • Check the outdoor unit control PCB • Check the inverter compressor wiring (Open phase/Reverse phase) • Compressor actuation failure (include lock) • Valve (or refrigerant circuit) blockage
	P31			• Indoor unit in group control trouble	• Repair indoor unit which blinking alarm

### 2-3-1-6. System Control

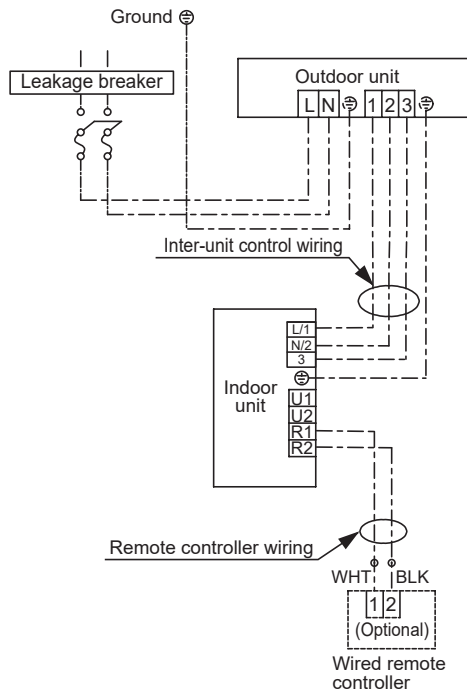
System control refers to the link wiring connection for control of simultaneous-operation multi systems, group control, and main-sub remote controller control.

#### 2-3-1-6-1. Basic wiring diagram

- Be careful to avoid miswiring when connecting the wires. (Miswiring will damage the units.)

(for 1-phase Outdoor unit)

(Example of SINGLE type)



#### (Wiring procedure)

- (1) Connect the remote controller to the indoor unit remote controller wiring terminal plate (R1, R2).  
(Remote controller wiring)
- (2) Connect the indoor units (L1, N2, 3) and the outdoor units (1, 2, 3).  
Connect the remote controller communication wiring to the indoor units (R1, R2) for each refrigerant system.  
(Remote controller wiring)
- (3) Connect the remote controller communication wiring (2 wires) from the remote controller wiring terminal plate (R1, R2) on the indoor unit (unit where the remote controller is connected) to the remote controller terminal plates (R1, R2) on the other indoor units. (Remote controller communication wiring)
- (4) Turn ON both the indoor and outdoor unit power and perform auto address setting from the remote controller.  
(For the auto address setting procedure, see section 2-3-1-6-3.)

#### NOTE

- \* Be sure to use the indoor unit temperature sensor (body sensor) when using this control. (Status at shipment.)

## 2-3-1-6-2. Address Setting : 3-LINE CONNECTION

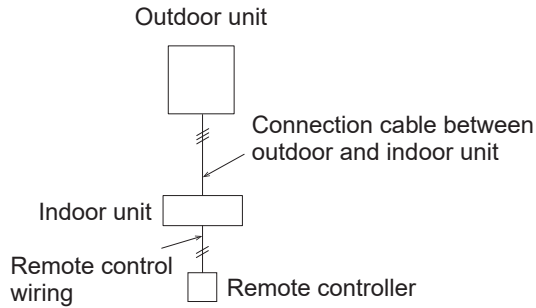
### NOTE

The displays of the earth, outdoor unit power supply wiring and earth leakage circuit breaker are omitted.

#### 2-3-1-6-2-1. Basic connection 1 : Single type operations

- It is not necessary to make setting of the refrigerant system address.
- When turning on all indoor and outdoor units, the auto address will start.  
It takes maximum 10 minutes.
- When the auto address setting is completed, wait at least 1 minute and 30 seconds.  
Then start the operation.

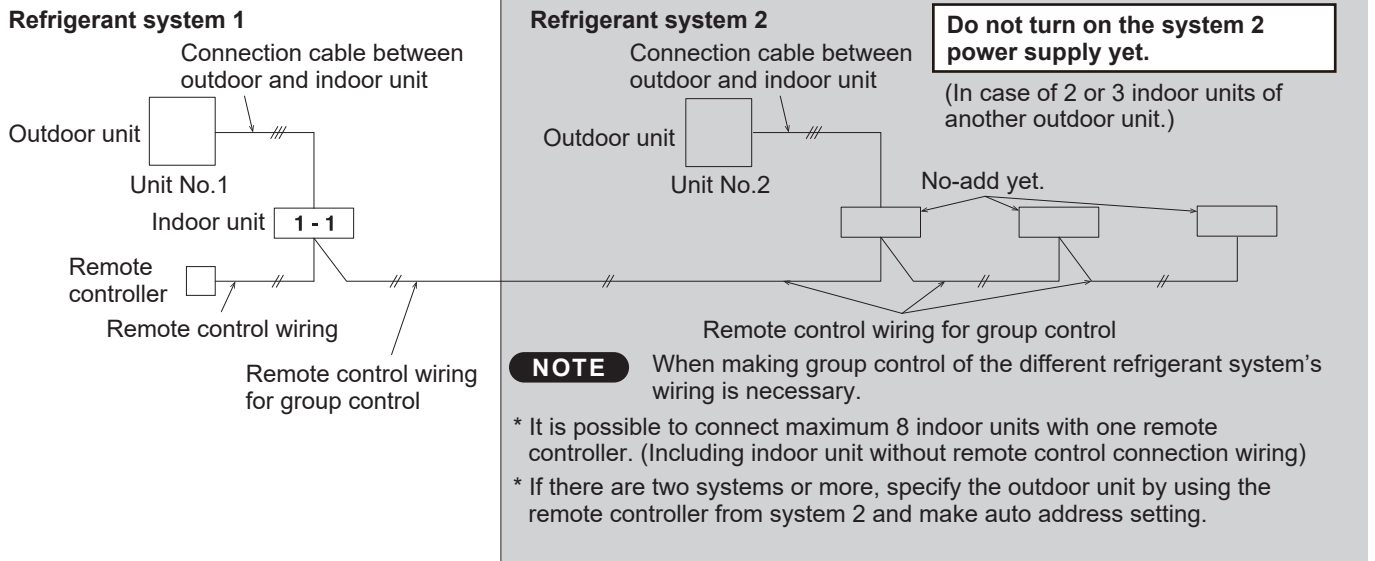
#### Single type



2-3-1-6-2-2. Basic connection 2 : Group control operation (when not using integrated control system)

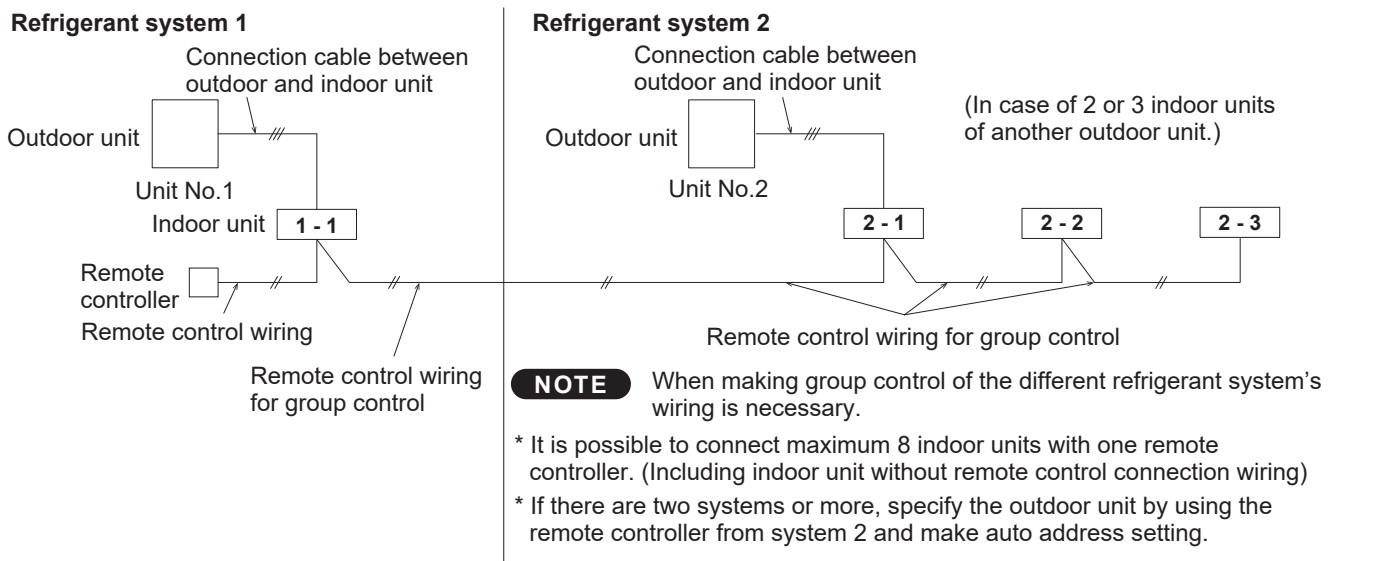
- Turn on the system 1 indoor and outdoor units (earth leakage circuit breaker) and make indoor unit auto address setting. (See section 2-3-1-6-3)

Two group control



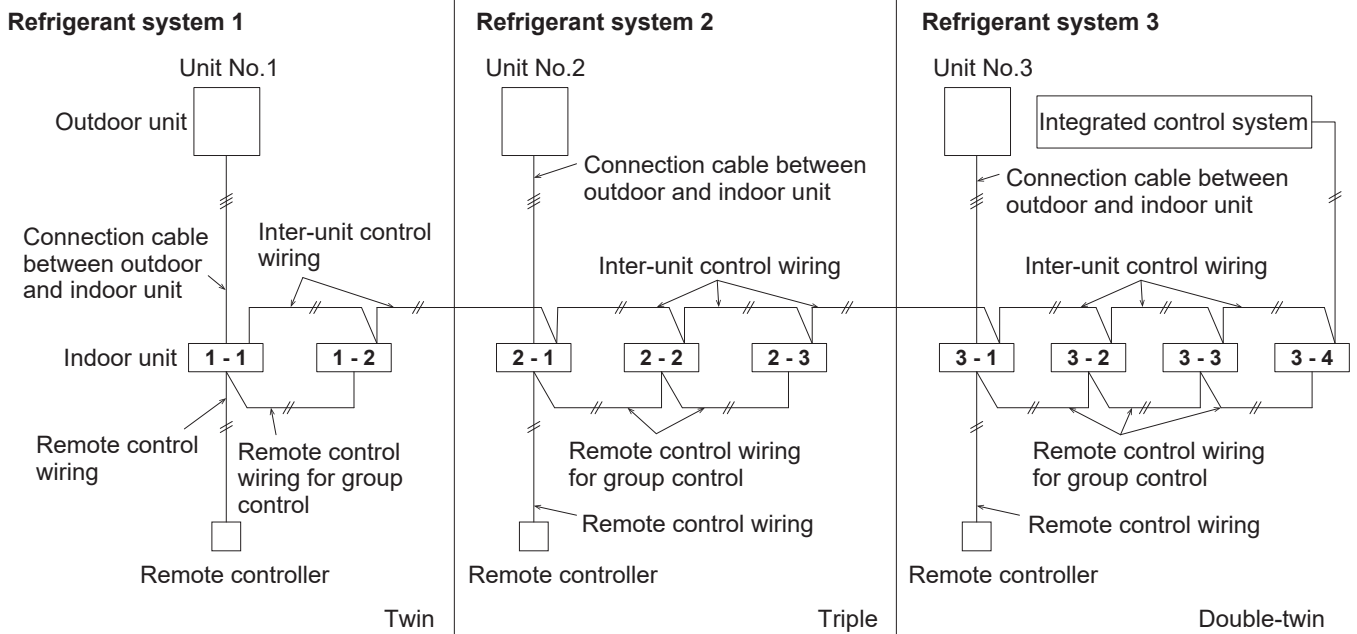
- While keeping the system 1 power on, turn on the system 2 indoor and outdoor units (earth leakage circuit breaker). Then make auto address setting of the indoor unit. (See section 2-3-1-6-3)

Two group control



**2-3-1-6-2-3. Basic connection 3 : Example of link wiring (when using integrated control system)**

- Turn on the power supply of each refrigerant system and select the system auto address setting by the remote controller. (See section 2-3-1-6-4)
- After setting the system address, make auto address setting of the indoor unit.

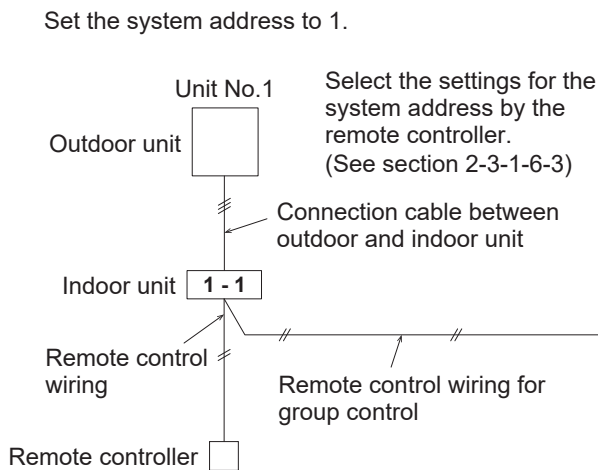


\* It is possible to connect maximum 8 indoor units with one remote controller.

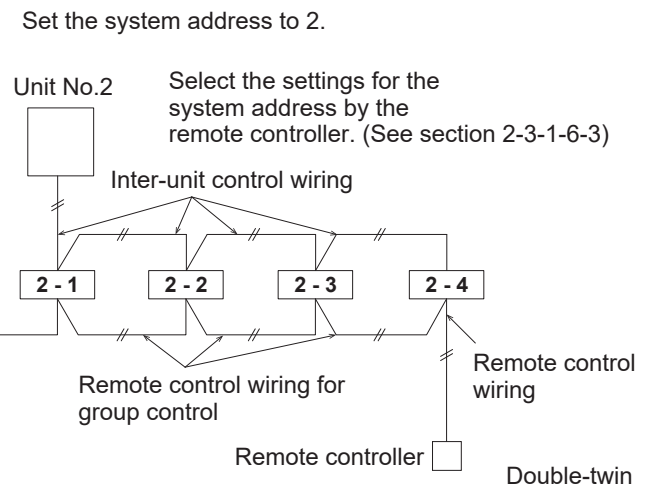
**2-3-1-6-2-4. Basic connection 4 : Group control with different refrigerant unit**

- \* Remote control inter-unit control wiring is necessary in all indoor units. Make auto address setting following the procedure “2-3-1-6-2-2. Basic connection 2”.

**3-LINE CONNECTION system 1**



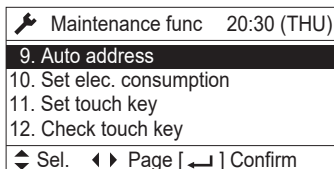
**2-LINE CONNECTION system 2**



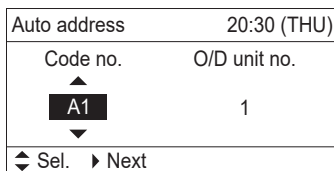
## 2-3-1-6-3. Auto Address Setting Using the Remote Controller

### Auto Address Setting from the High-spec Wired Remote Controller (CZ-RTC5B)

- (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 “9. Auto address” on the LCD display and press the button.



- (3) The “Auto address” screen appears on the LCD display.  
Change the “Code no.” to “A1” by pressing the or button.



- (4) Select the “O/D unit no.” by pressing the or button.  
Select one of the “O/D unit no.” for auto address by pressing the or button.  
Approximately 10 minutes are required.  
When auto address setting is completed, the units return to normal stopped status.



CZ-RTC5B

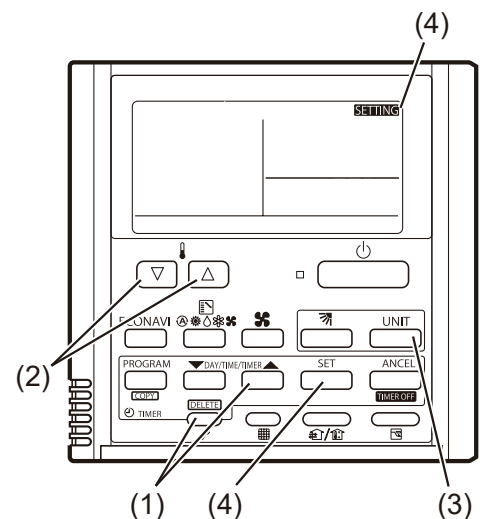
### Auto Address Setting\* from the Remote Controller (CZ-RTC4)

\* Auto address setting in Cooling mode cannot be done from the remote controller.

#### NOTE

- Selecting each refrigerant system individually for auto address setting
- Auto address setting for each system : Item code “A1”

- (1) Press the remote controller timer time button and button at the same time.  
(Press and hold for 4 seconds or longer.)
- (2) Next, press either the temperature setting / button.  
(Check that the item code is “A1”.)
- (3) Use either the button to set the system No. to perform auto address setting.
- (4) Then press the button.  
(Auto address setting for one refrigerant system begins.)  
(When auto address setting for one system is completed, the system returns to normal stopped status.)  
<Approximately 4 – 5 minutes is required.>  
(During auto address setting, “SETTING” is displayed on the remote controller.



CZ-RTC4

- This message disappears when auto address setting is completed.)
- (5) Repeat the same steps to perform auto address setting for each successive system.






### 2-3-1-6-4. How to Set Refrigerant System Address

- Turn on the power in the indoor and outdoor units of the refrigerant system 1.
- Switch the power on and wait at least 1 minute and 30 seconds or more. Short-circuit the auto address pin of the outdoor unit with turned on and release. (LED1 and LED2 of the outdoor unit control PCB blink alternately and the address setting of the indoor unit is started. When completed, LEDs go off.)  
<It takes about 10 minutes until it finished.>  
Auto address pin: If you once again short-circuit the auto address pin before completion when the auto address started, the auto address will stop.
- Turn on the different refrigerant system's indoor and outdoor units and wait at least 1 minute and 30 seconds or more. Then short-circuit the auto address pin of the outdoor unit and release.
- Repeat the same procedure and complete the auto address setting of each system.
- When the address setting is completed, wait at least 1 minute and 30 seconds or more. Then start the operation.

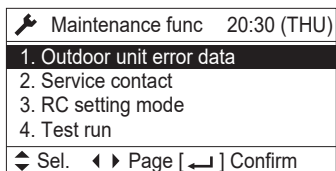
### 2-3-1-6-5. Checking the Indoor Unit Addresses





Use the remote controller to check the indoor unit address.


#### CZ-RTC5B (High-spec wired remote controller)

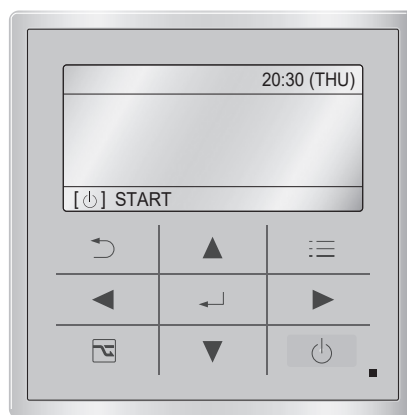
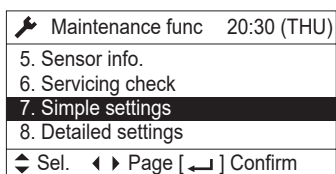
- (1) Keep pressing the ,  and  buttons simultaneously for 4 or more seconds.

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.

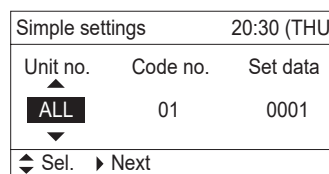
Select "7. Simple settings" on the LCD display and press the  button.



CZ-RTC5B

- (3) The "Simple settings" screen appears on the LCD display.




Select the "Unit no." by pressing the  or  button for changes.



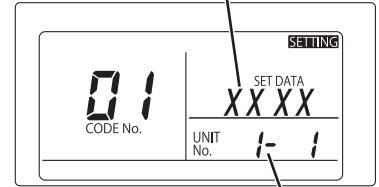
The indoor unit fan operates only at the selected indoor unit.

### CZ-RTC4 (Timer remote controller)

#### <If 1 indoor unit is connected to 1 remote controller>






- (1) Press and hold the  button and  button for 4 seconds or longer (simple settings mode).
- (2) The address is displayed for the indoor unit that is connected to the remote controller.  
(Only the address of the indoor unit that is connected to the remote controller can be checked.)
- (3) Press the  button again to return to normal remote controller mode.

Number changes to indicate which indoor unit is currently selected.

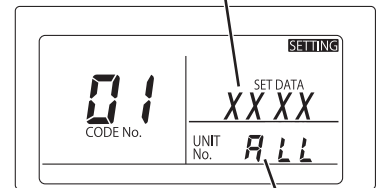


Indoor unit address

#### <If multiple indoor units are connected to 1 remote controller (group control)>

- (1) Press and hold the  button and  button for 4 seconds or longer (simple settings mode).
- (2) "ALL" is displayed on the remote controller.
- (3) Next, press the  button.
- (4) The address is displayed for 1 of the indoor units which is connected to the remote controller. Check that the fan of that indoor unit starts and that air is discharged.
- (5) Press the  button again and check the address of each indoor unit in sequence.
- (6) Press the  button again to return to normal remote controller mode.

Number changes to indicate which indoor unit is currently selected.

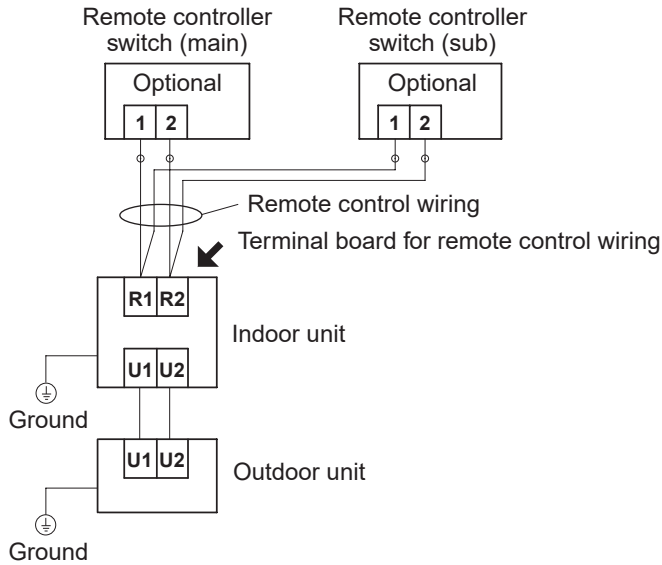


Indoor unit address

### 2-3-1-6-6. Main-Sub Remote Controller Control

Control using 2 remote controller switches Main-sub remote controller control refers to the use of 2 remote controllers to control 1 or multiple indoor units. (A maximum of 2 remote controllers can be connected.)

#### Connecting 2 remote controllers to control 1 Indoor unit



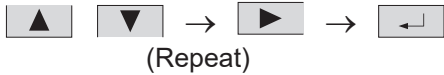
#### Remote controller setting mode (CZ-RTC5B)

(1) Press and hold the , and for 4 seconds or more simultaneously.

(2) Select the item to set.  
(Select "3. RC. setting mode".)



(3) Set.  
(Select the "Code no." and "Set data".)

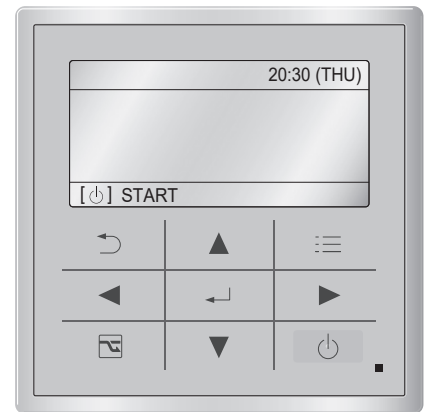


Maintenance func	20:30 (THU)
1. Outdoor unit error data	
2. Service contact	
<b>3. RC. setting mode</b>	
4. Test run	
◀ Sel. ▶ Page [←] Confirm	

RC. Setting mode	20:30 (THU)
Code no.	Set data
<b>01</b>	0001
◀ Sel. ▶ Next	
Code no.	Set data

(4) Press .  
● After Selecting "YES", the unit restarts.

Code no.	Item	Set data	
		0000	0001
01	Main/Sub	Sub	Main



CZ-RTC5B

#### Remote controller setting mode (CZ-RTC4)

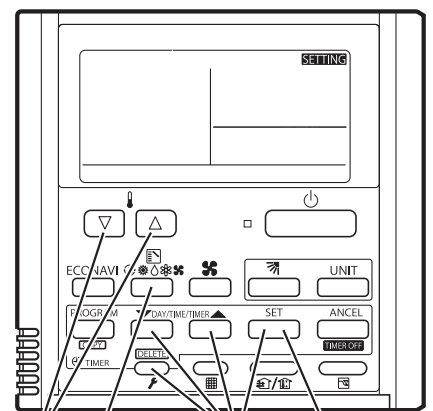
(1) Press and hold the 2 buttons for several seconds simultaneously.

(2) Select the Code no.

(3) Select the Set data.

The indicator illuminates after blinking. Press .

Code no.	Item	Set data	
		0000	0001
01	Main/Sub	Sub	Main



CZ-RTC4

## 2-4. Outdoor Units

### 2-4-1-1. CHECKS AFTER INSTALLATION HAVE COMPLETED

- Check the following items after completing installation.
  - Is there a short circuit with the intake air flow?
  - Is the insulation secure? (Refrigerant piping)
  - Are there any errors with the wiring?
  - Are the terminal screws loose? Tightening torque (Unit: N•m {kgf•cm})  
M4...1.57~1.96 {16~20}, M5...1.96~2.45 {20~25}
  - Is the drain water flowing smoothly?
  - Is the insulation material properly installed?
  - Is the earth wire securely connected?
  - Are the terminal board cover, control board cover and the indoor unit air conditioner firmly fixed and was the installation completed without any leakage from the refrigerant?
  - Are the indoor and outdoor units secured firmly installed with bolts at secured locations?

### 2-4-1-2. REGARDING DELIVERY TO THE CUSTOMER

- Request the customer to review the operating instructions and explain the operating method for the product.
- In addition, it is also recommended that regular inspection checks are agreed upon for maintenance.

- |                              |   |  |
|------------------------------|---|--|
| User inspection places       | ┌ | • Grill cleaning   |
|                              | └ | • Exterior cleaning  |
| Serviceman inspection places | ┌ | • Check the operating status                                   |
|                              | └ | • Clean the drain pan or things related to the water discharge |
|                              | └ | • Heat exchanger cleaning                                      |

Refer to the installation instruction manual provided with the indoor unit for the specifications on the indoor unit installation.

### 2-4-1-3. Caution for Pump-Down

Pump down means refrigerant gas in the system is returned to the outdoor unit.  
 Pump down is used when the unit is to be moved, or before servicing the refrigerant circuit.

#### How to perform Pump-Down (Refrigerant recovery) properly

- 1 Stop operation of the unit (cooling, heating etc.).
- 2 Connect the pressure gauge to the service port of the gas wiring valve.
- 3 Short-circuit CN-S continuously between 1 second and seconds, Pump-Down begins and the unit starts operating.
- 4 Fully close the liquid side valve 2-3 minutes later.  
 The Pump-Down will begin.
- 5 When the pressure gauge drops to 0.1-0.2MPa, close the gas side valve tight and short-circuit the CN-S in again.  
 Pump-Down operation completed.

Control stop condition

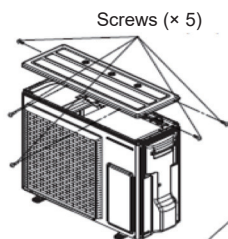
-600 seconds after the Pump-Down operation starts

Note : In the case that inter-unit wiring is 30m or longer, you cannot pump-down.  
 (It may trigger the operation of the overload protection device.)  
 In this case, perform Pump-Down with Pump-Down device.

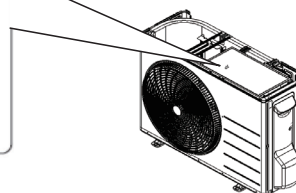
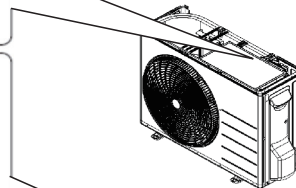
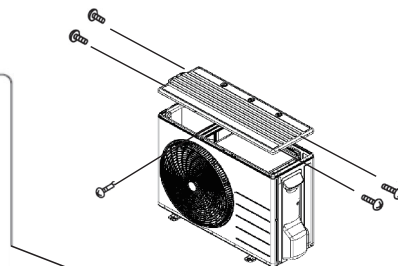
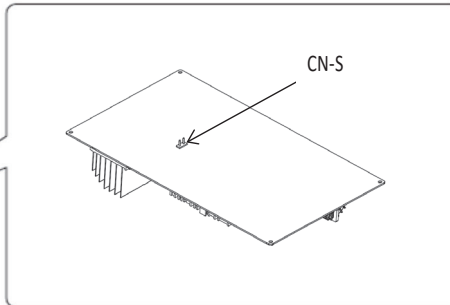
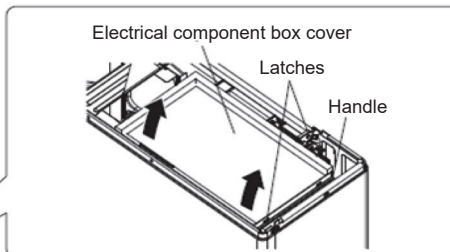
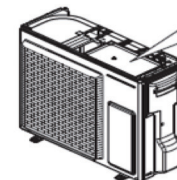
Caution in the Pump-Down operation, stop the compressor before removing the refrigerant pipes.

If you do not stop the compressor operation, and if the valve is open and remove the refrigerant pipes, the air may be sucked into the system and causes extreme high temperature in the refrigerant cycle. This may result in rupture or injury, etc.

- (1) Remove the top panel by unfastening five screws.



- (1) To remove the electrical component box cover, press the latches on the cover in the direction of the arrow while holding the handle with one hand.



#### CAUTION

- This outdoor unit cannot collect more than the rated refrigerant amount as shown by the nameplate on the back.
- If the amount of refrigerant is more than that recommended, do not conduct a Pump-Down.  
 In this case use another refrigerant collecting system.
- Pay a special attention on the rotating of the fan while operating.

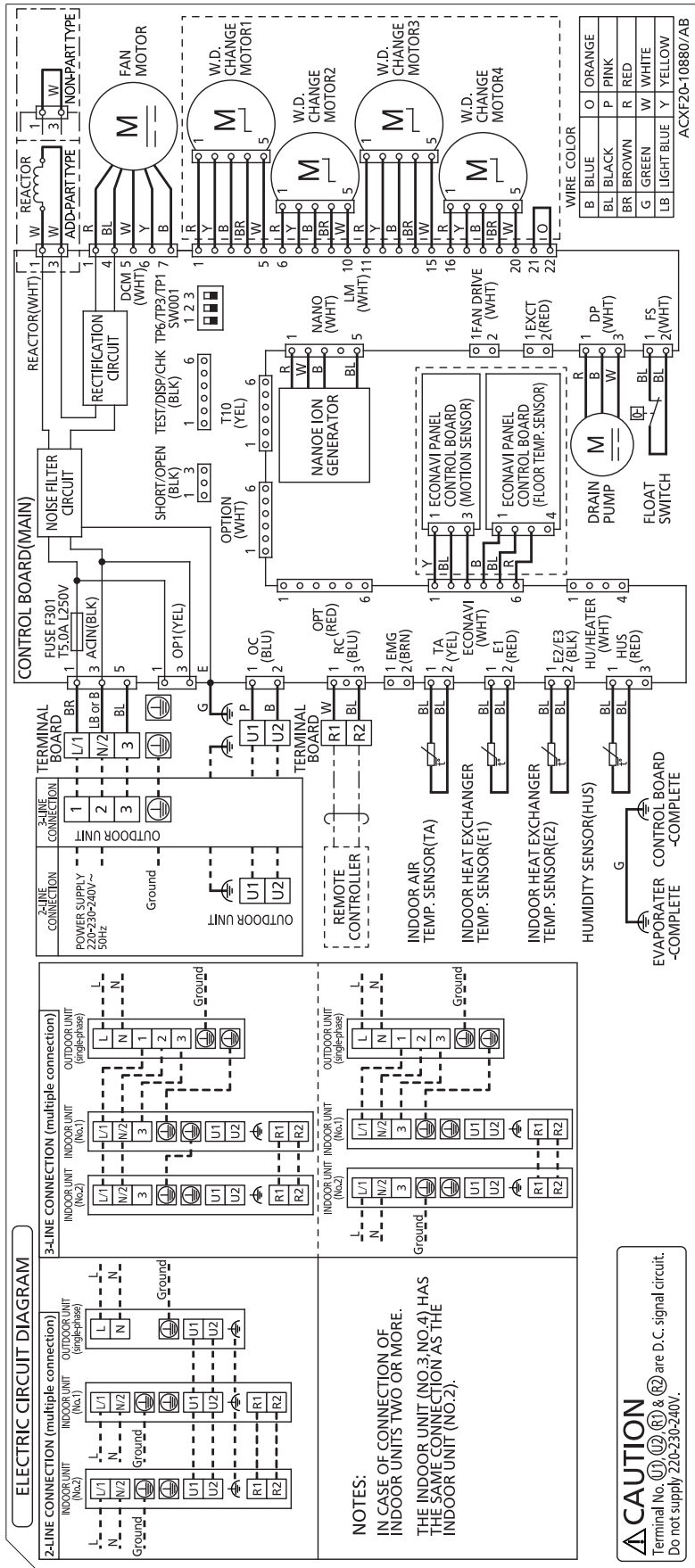
– MEMO –

## 3. ELECTRICAL DATA

<b>3-1. Indoor Units (Electric Wiring Diagram) .....</b>	<b>3-1-1-1</b>
4-Way Cassette Type .....	3-1-1-1
Middle Static Pressure Duct Type .....	3-1-2-1
<b>3-2. Outdoor Units (Electric Wiring Diagram) .....</b>	<b>3-2-1-1</b>

### 3-1. Indoor Units

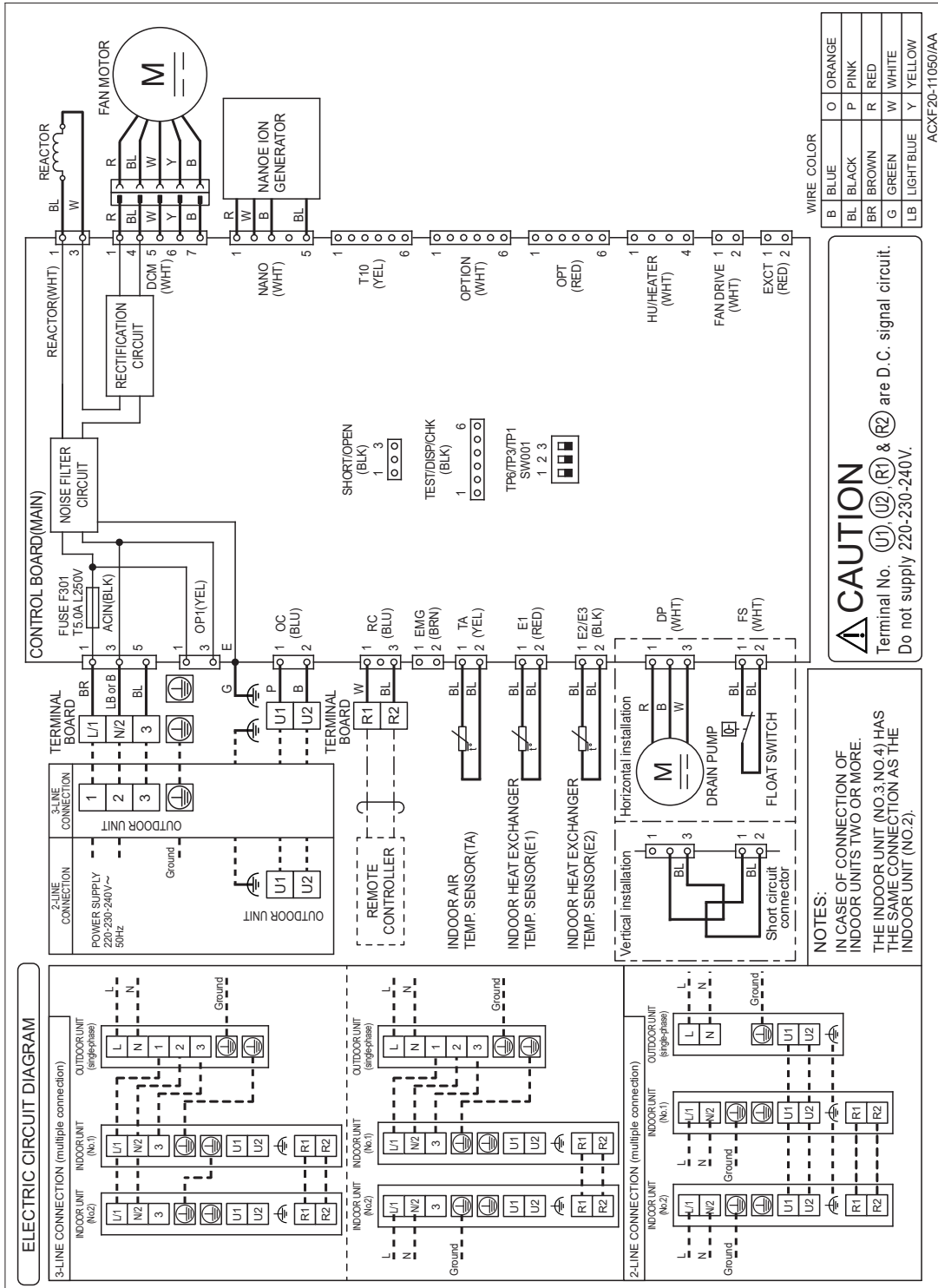
#### 4-Way Cassette Type S-3650PU3E, S-6071PU3E Electric Wiring Diagram





### 3-1. Indoor Units

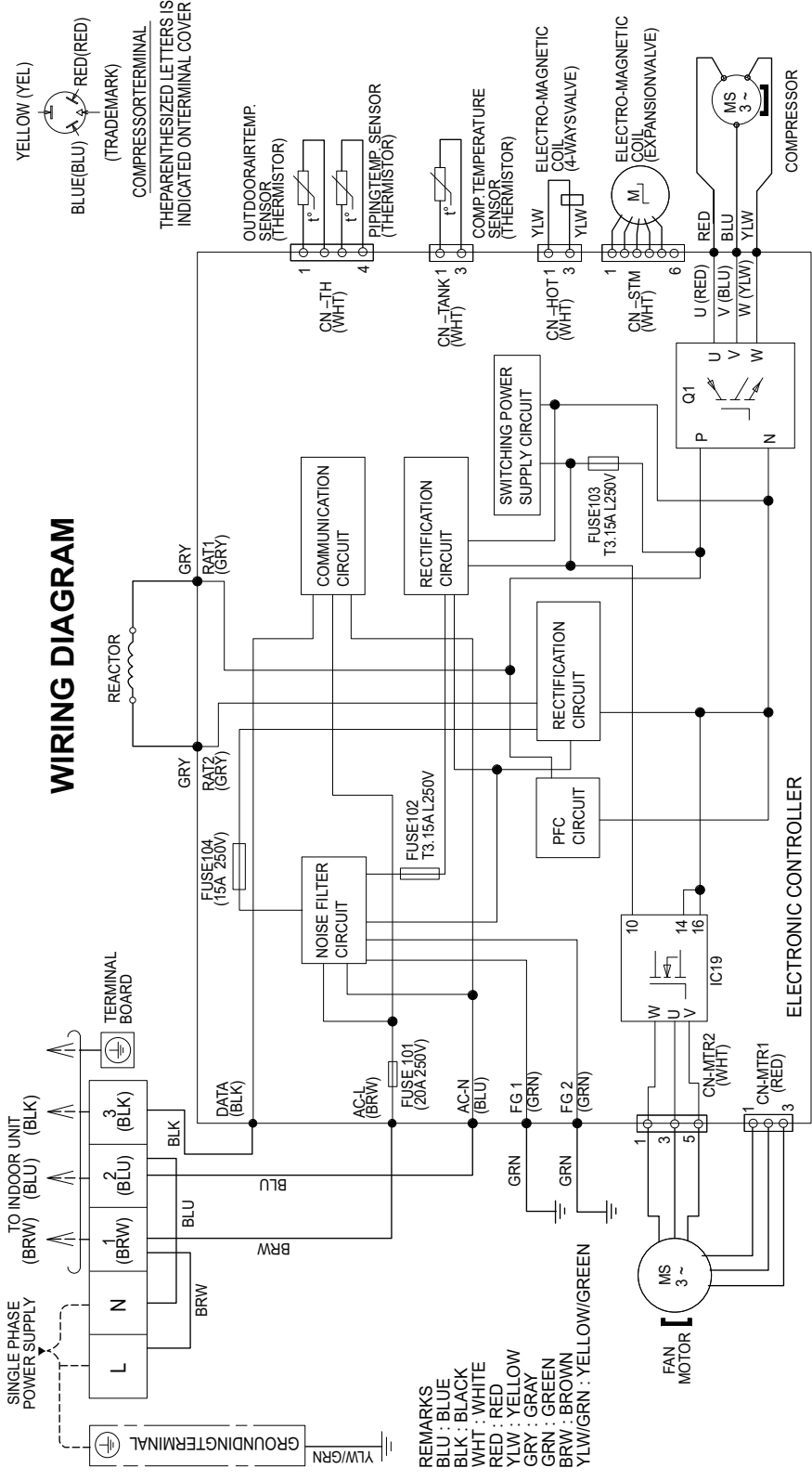
## ■ Middle Static Pressure Duct Type S-3650PF3E, S-6071PF3E Electric Wiring Diagram



3-2. Outdoor Units

■ U-36PZ3E5

Electric Wiring Diagram



**CAUTION**

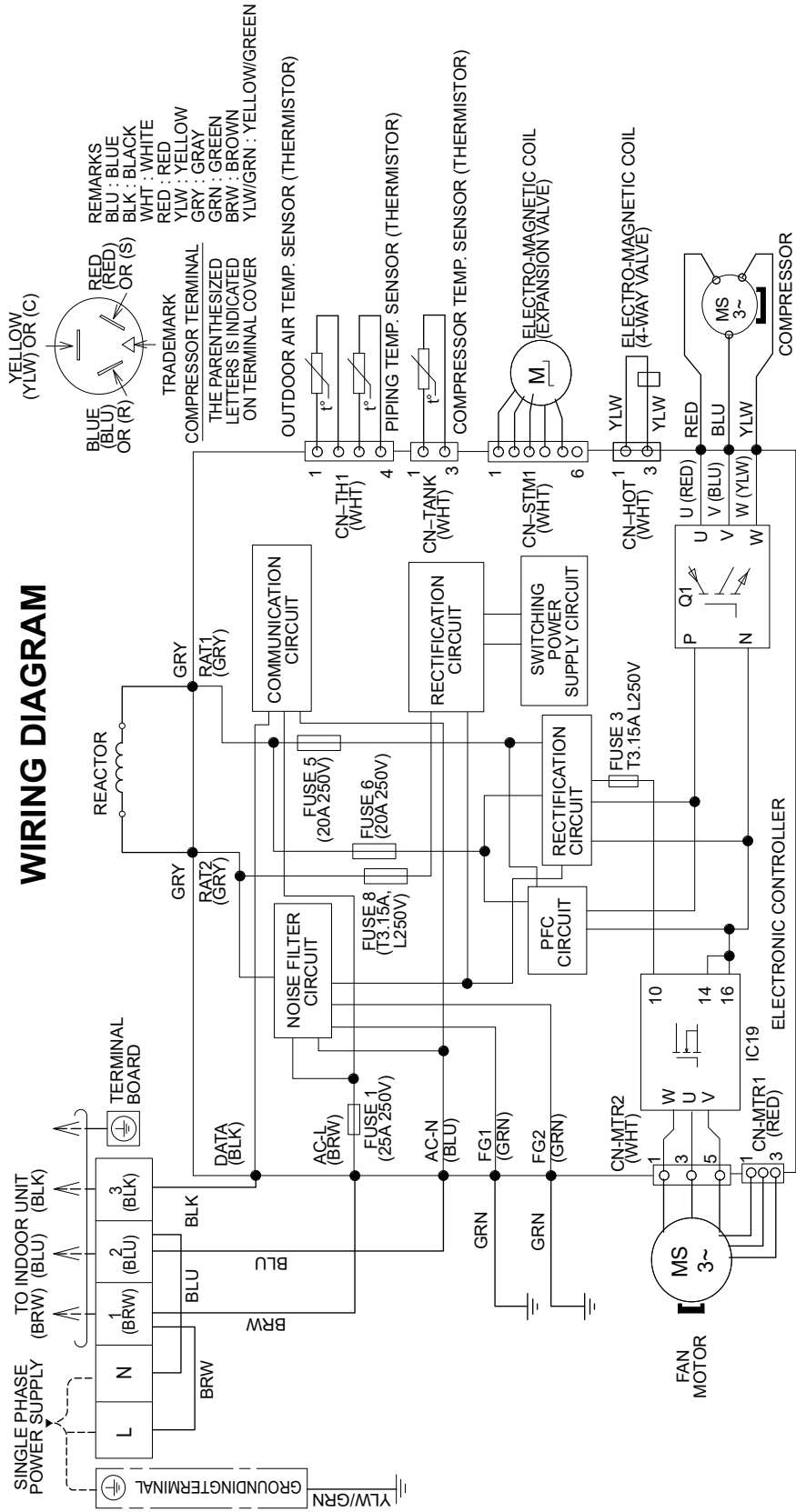
DUE TO HIGH VOLTAGE, DO NOT TOUCH THE TERMINALS IN THE CONTROL BOARD DURING OPERATION AND 5 MINUTES AFTER SWITCHING OFF. NEXT, CONFIRM THE VOLTAGE RECTIFICATION CIRCUIT BETWEEN DIODE BRIDGE (+) AND (-) HAS DROPPED TO BELOW 42V, BEFORE ACCESSING THE TERMINALS IN THE CONTROL BOARD.

ACXF22-08420

3-2. Outdoor Units

■ U-50PZ3E5, U-60PZ3E5, U-71PZ3E5

Electric Wiring Diagram



**CAUTION**

DUE TO HIGH VOLTAGE, DO NOT TOUCH THE TERMINALS IN THE CONTROL BOARD DURING OPERATION AND 5 MINUTES AFTER SWITCHING OFF. NEXT, CONFIRM THE VOLTAGE RECTIFICATION CIRCUIT BETWEEN DIODE BRIDGE (+) AND (-) HAS DROPPED TO BELOW 42V, BEFORE ACCESSING THE TERMINALS IN THE CONTROL BOARD.

ACXF22-08430



– MEMO –

## 4. CONTROL FUNCTIONS

4-1.	Room Temperature Control.....	4-1
4-2.	Heating Standby.....	4-3
4-3.	Automatic Fan Speed Control.....	4-4
4-4.	Drain Pump Control .....	4-5
4-5.	Automatic Heating/Cooling Control .....	4-6
4-6.	Automatic Flap Control .....	4-7
4-7.	Filter Sign .....	4-7
4-8.	Fan Control during Dry Mode .....	4-8
4-9.	Ventilation Fan Output.....	4-8
4-10.	T10 Terminal .....	4-8
4-11.	Parameter .....	4-9
4-12.	Control Functions .....	4-10
4-13.	Indoor Unit Control PCB Switches and Functions .....	4-15
4-14.	Outdoor Units Control PCB (CR-PCB).....	4-17
4-15.	Self-Diagnostics Function Table.....	4-19

#### 4-1. Room Temperature Control

- The body sensor or remote controller sensor detects temperature in the room. The detected temperature is called the room temperature. The body sensor is the one contained in the indoor unit.

	Body sensor is enabled	Remote controller sensor is enabled
Set temp.	Set temp. in remote controller	Set temp. in remote controller
Detected temp. by sensor	Detected temp. by body sensor	Detected temp. by remote controller sensor
Room temp.	Detected temp. by body sensor - *correction temp.	Detected temp. by remote controller sensor

- The thermostat is turned ON or OFF according to the following  $\Delta T$ .

$\Delta T$ (Cooling)	$\Delta T = \text{room temp.} - \text{set temp. (set temp. in remote controller)}$
$\Delta T$ (Heating)	$\Delta T = \text{set temp.} - \text{room temp.}$

※ Correction temperature (only during heating)

If the indoor unit is installed on the ceiling, temperature near the ceiling is higher than near the floor. When the body sensor is enabled, lower temperature near the floor must be considered. To correct this difference in temperature, the correction temperature is used.

The factory setting for the correction temperature is different depending on the model. See "4-11. Parameter".

Example: Cooling temperature correction  
4-Way Cassette (correction temperature: 0 degrees)  
Body sensor is enabled

Set temp. in remote controller	28°C	28°C	28°C
Detected temp. by sensor	30.0°C	26.5°C	26.0°C
Detected temp. by body sensor	30.0°C	26.5°C	26.0°C
Detected temp. by remote controller sensor	30.0°C	26.5°C	26.0°C
Room temp. = temp. detected by body sensor	30.0°C =30.0	26.5°C =26.5	26.0°C =26.0
$\Delta T$	+2.0deg	-1.5deg	-2.0deg
	Thermostat ON	Thermostat ON	Thermostat OFF

Example: Heating temperature correction  
4-Way Cassette (correction temperature: 4 degrees)  
Body sensor is enabled

Set temp. in remote controller	20°C	20°C	20°C
Detected temp. by sensor	17.0°C	25.5°C	26.0°C
Detected temp. by body sensor	17.0°C	25.5°C	26.0°C
Detected temp. by remote controller sensor	13.0°C	21.5°C	22.0°C
Room temp. = temp. detected by body sensor - 4 deg	13.0°C =17.0-4 deg	21.5°C =25.5-4 deg	22.0°C =26.0-4 deg
$\Delta T$	+7.0deg	-1.5deg	-2.0deg
	Thermostat ON	Thermostat ON	Thermostat OFF

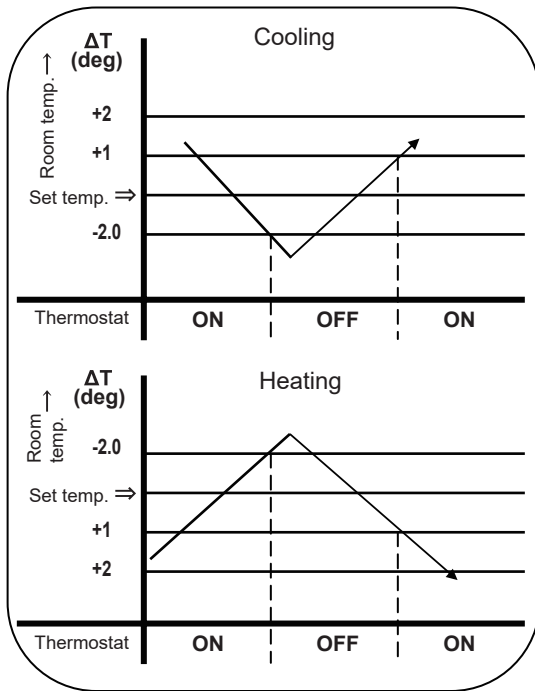
Remote controller sensor is enabled

Set temp. in remote controller	28°C	28°C	28°C
Detected temp. by sensor	30.0°C	27.0°C	26.5°C
Detected temp. by body sensor	30.0°C	27.0°C	26.5°C
Detected temp. by remote controller sensor	30.0°C	27.0°C	26.5°C
Room temp. = temp. detected by remote controller sensor	30.0°C =30.0	27.0°C =27.0	26.5°C =26.5
$\Delta T$	+2.0deg	-1.0deg	-1.5°C
	Thermostat ON	Thermostat ON	Thermostat OFF

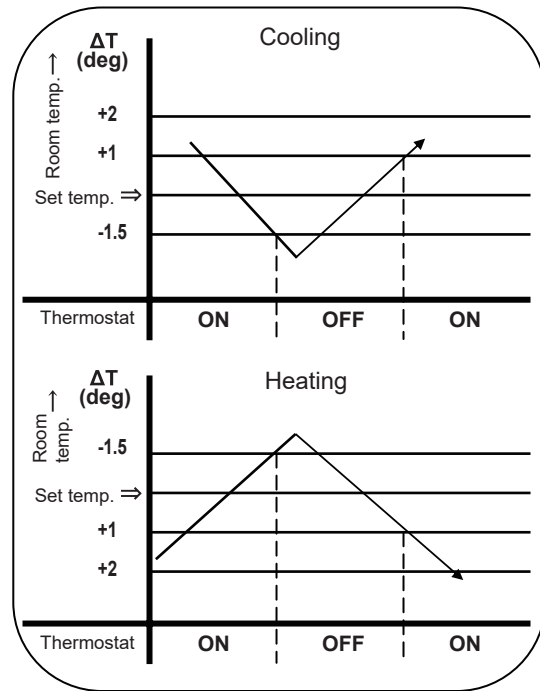
Remote controller sensor is enabled

Set temp. in remote controller	20°C	20°C	20°C
Detected temp. by sensor	17.0°C	21.0°C	21.5°C
Detected temp. by body sensor	21.0°C	25.0°C	25.5°C
Detected temp. by remote controller sensor	17.0°C	21.0°C	21.5°C
Room temp. = temp. detected by remote controller sensor	17.0°C =17.0	21.0°C =21.0	21.5°C =21.5
$\Delta T$	+3.0deg	-1.0deg	-1.5°C
	Thermostat ON	Thermostat ON	Thermostat OFF

Body sensor is enabled




Remote sensor is enabled



- ① The thermostat does not turn ON 3 minutes after it turns OFF.
- ② The thermostat does not turn OFF for 60 minutes during the test run mode. (Forced thermostat ON)  
\*However, the thermostat turns OFF if an alarm occurs.
- ③ The thermostat turns OFF when  $\Delta T$  continues in thermostat OFF zone for 3 minutes.

## 4-2. Heating Standby

● In heating mode, the indoor fan speed decreases to prevent cold air discharge from the indoor unit. During this time,  (heating standby) is displayed on the remote controller.

① This condition occurs in the following cases.

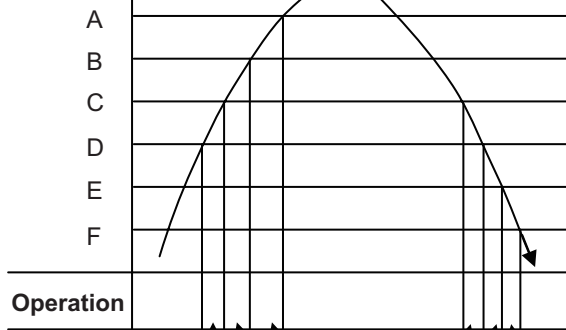
- Thermostat OFF
- Defrosting operation
- Indoor heat exchanger liquid temperature (E1 or E2) < 28°C just after heating operation started  
The fan speed may sometimes increase when this condition continues for 6 minutes.

② The fan mode increases when the heat exchanger liquid temperature (E1 or E2) or discharge air temperature increases.

※ The fan mode is selected based on E1 temperature and E2 temperature as shown in the below figure. If the E1 temperature and E2 temperature are different, the higher temperature is used.

Temperature (°C)

E1 or E2



Indoor unit type	U3	F3
A	24	26
B	22	24
C	20	22
D	18	20
E	12	14
F	8	10

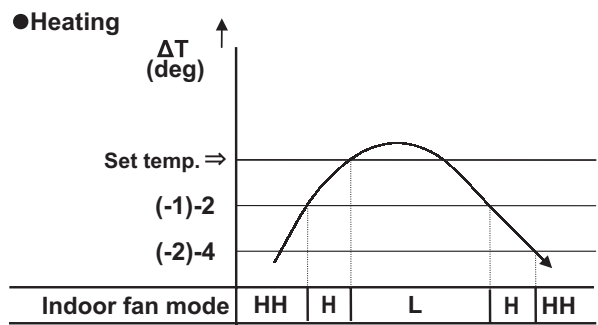
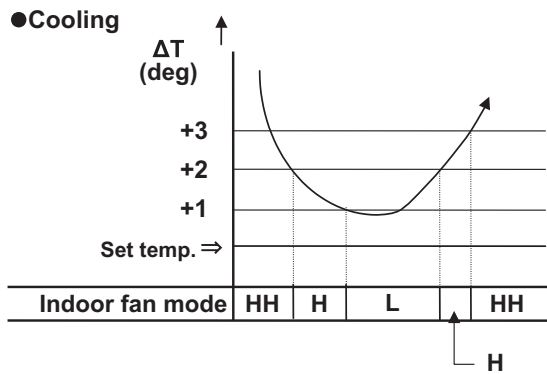
Set fan speed	*HH	STOP	LL	L	H	HH	H	L	LL	STOP
fan	H	STOP	LL	L	H	H	H	L	LL	STOP
speed	L	STOP	LL	L	L	L	L	L	LL	STOP

※ The function of “HH” is identical to the automatic fan speed mode.



### 4-3. Automatic Fan Speed Control

- ① The indoor fan mode is controlled as shown below during the automatic fan mode.
- ② The fan mode does not change for 3 minutes during cooling operation and 1 minute during heating operation once it is changed.
- ③ The values in the parenthesis are when the remote controller sensor is enabled.



#### 4-4. Drain Pump Control

The drain pump operates in the following conditions.

- ① Cooling thermostat ON
- ② The float switch worked.
- ③ The drain pump may often operate for a while when the cooling thermostat turns OFF or the indoor unit is stopped.
- ④ The drain pump can be turned on when the cooling thermostat is OFF if the setting is made to prevent water collected in the drain pan for a long time. For details, see the section “7-3. Detailed Settings Function”.
- ⑤ The indoor unit heat exchanger liquid temperature (E1 or E2) is less than 0°C.

※ The drain pump operates for 20 minutes once it starts operating.

#### 4-5. Automatic Heating/Cooling Control

- ① The operating mode is selected according to the set temperature and room temperature when the operation is started.  
 Room temperature  $\geq$  set temperature in remote controller  $- 1^{\circ}\text{C} \rightarrow$  Cooling mode  
 Room temperature  $<$  set temperature in remote controller  $- 1^{\circ}\text{C} \rightarrow$  Heating mode
- ② The set temperature is corrected according to the operating mode. The correction temperature is  $+2$  degrees in cooling mode and  $-2$  degrees in heating mode at the time of factory shipment.

※ The correction value is different depending on the model. See “4-11. Parameter” for details.

Corrected cooling temperature – control temperature for cooling

Corrected heating temperature – control temperature for heating

When setting temperature in remote controller is  $20^{\circ}\text{C}$  in the cooling mode (at shipment) :

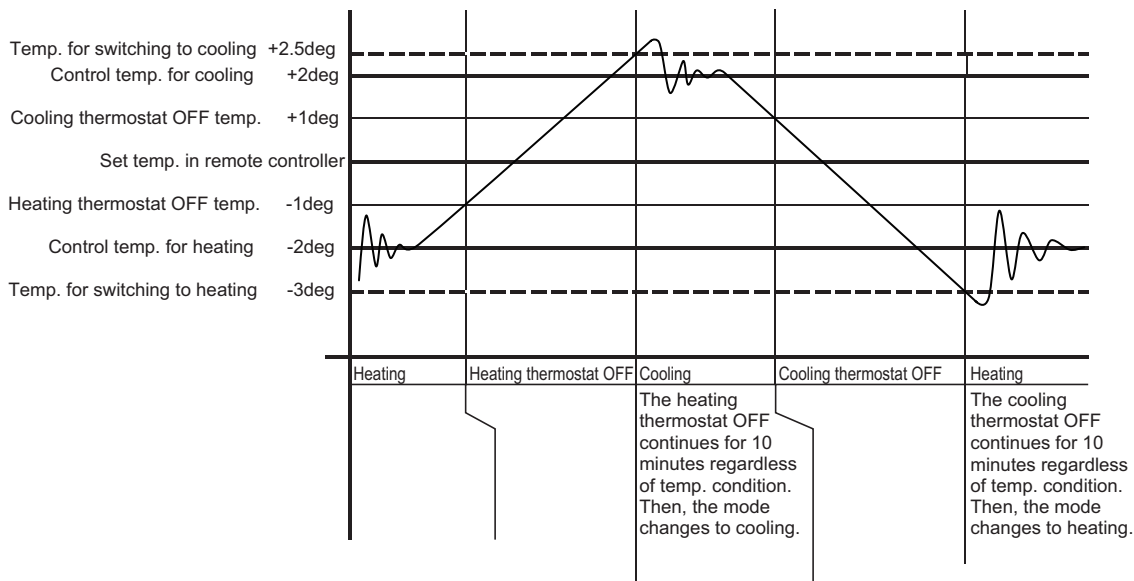
Control temp. for cooling	$22^{\circ}\text{C}$
Set temp. in remote controller	$20^{\circ}\text{C}$
Control temp. for heating	$18^{\circ}\text{C}$

- ③ Condition for mode change

Heating  $\rightarrow$  Cooling: Room temperature  $\geq$  Control temperature for cooling  $+ 0.5$  degree

Cooling  $\rightarrow$  Heating: Room temperature  $\leq$  Control temperature for heating  $-1.0$  degree

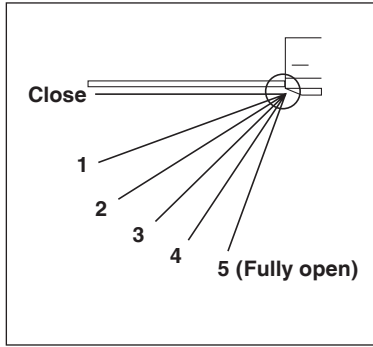
When setting temperature in remote controller is  $20^{\circ}\text{C}$  in the cooling mode :



For settings at the time of factory shipment, see the section “4-11. Parameter”.

#### 4-6. Automatic Flap Control

- The flap position can be selected from 5 positions.



Type U3

Operating mode	Flap position
Cooling/Dry	1 · 2 · 3 · 4 · 5
Fan	1 · 2 · 3 · 4 · 5
Heating	1 · 2 · 3 · 4 · 5

- ① The flap will be closed automatically when the indoor unit is stopped.
- ② For 4-Way cassette type (U3), the flap closes once and moves to the set position when the operating mode is changed.

**NOTE**

Do not change the flap position manually.

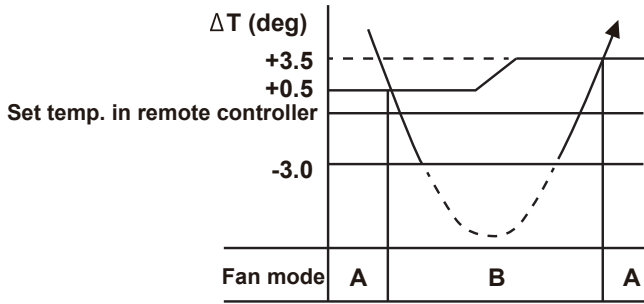
- ※ Only the swing operation can be used.
- ※ The swing operation can be set for the flap.

#### 4-7. Filter Sign

- ① When accumulated operating time of the indoor unit reaches the set time, the filter sign appears on the remote controller. Clean the filter.  
See the section “7-2. List of Simple Setting Items, 7-5. Simple Setting Items and Filter sign ON times for each model”.
- ② After cleaning the filter, press the filter button on the remote controller once. The filter sign turns off.

#### 4-8. Fan Control during Dry Mode

The fan control during dry mode is as follows.



A: Fan mode is set in the remote controller

B: Fan mode is DRY-L during thermostat ON, LL during thermostat OFF

( L ≥ DRY-L ≥ LL )

#### 4-9. Ventilation Fan Output

- The output of ventilation turns ON when the indoor unit turns ON. Also, when the indoor unit turns OFF, the output of the ventilation turns OFF.
- The ventilation fan can also be turned ON and OFF using the ventilation button on the remote controller.

Refer to the operating instructions supplied with the remote controller.

To enable this function, set the indoor EEPROM DN31 to "0001" in advance.

#### 4-10. T10 Terminal

Using the T10 terminal, each indoor unit can be operated or stopped separately. Also, operating condition can be checked.

#### 4-11. Parameter

Type	Model	Correction temp. (heating)	Heat/cool switching correction temp. (automatic heat/cool)
		Setting at time of factory shipment	Setting at time of factory shipment
U3	4-Way Cassette	4 deg	2 deg
F3	Middle Static Pressure Duct	4 deg	2 deg

The parameter may sometimes increase or decrease in accordance with the outdoor temperature, the use of indoor fan tap and operating mode.

## 4-12. Control Functions

- **PZ3** Single-phase : U-36PZ3E5, 50PZ3E5, 60PZ3E5, 71PZ3E5

### 4-12-1. Compressor Frequency Control

The frequency of the compressor's inverter is limited by either of the following controls depending on whether the cooling or heating mode is in operation.

#### Cooling Mode :

- Indoor air temperature control
- Maximum and minimum frequency control
- Current release control
- Cooling high-load prevention control
- Cooling freeze prevention control
- Discharge temperature control

#### Heating Mode :

- Indoor air temperature control
- Maximum and minimum frequency control
- Current release control
- Heating high-load prevention control
- Discharge temperature control

### 4-12-2. Maximum and Minimum Frequency Control

The compressor's inverter frequency is controlled in accordance with the model and operation mode.

The maximum and minimum frequencies for each model are shown in the table below.

- \* There are cases in which frequency is limited with other control functions depending on operational conditions, so operations are not always carried out in accordance with the maximum frequencies listed below.

· Maximum and Minimum Frequency

Type			PZ3			
Model name (U-)			36PZ3E5	50PZ3E5	60PZ3E5	71PZ3E5
Indoor	Maximum Frequency (Hz)	Cooling	65	73	97	64
		Heating	80	90	110	70
Outdoor	Minimum Frequency (Hz)	Cooling	20	15	15	16
		Heating	20	15	15	16

- \* There is a case in which the frequency set at maximum and minimum may sometimes decrease in accordance with ambient temperature and indoor loads.

### 4-12-3. Current Release Control

The inverter frequency is controlled so that the current value for the inverter compressor is less than the figure listed in the table below in order to prevent abnormal increases in the inverter circuit included in the electrical component box of the outdoor unit.

Current release control with primary current : The limited values are modified in accordance with ambient temperature.

Type			PZ3			
Model name (U-)			36PZ3E5	50PZ3E5	60PZ3E5	71PZ3E5
Outdoor	Is (A)	Cooling	7.86	8.87	11.22	13.49
		Heating	8.01	9.59	10.59	11.22

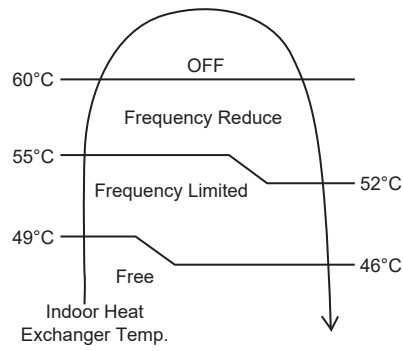
#### 4-12-4. Cooling Overload Control

- Detects the outdoor pipe temperature and carry out below restriction/limitation (Limit the compressor operation frequency).
- The compressor stop if outdoor pipe temperature exceeds 60°C.



#### 4-12-5. Heating Overload Control

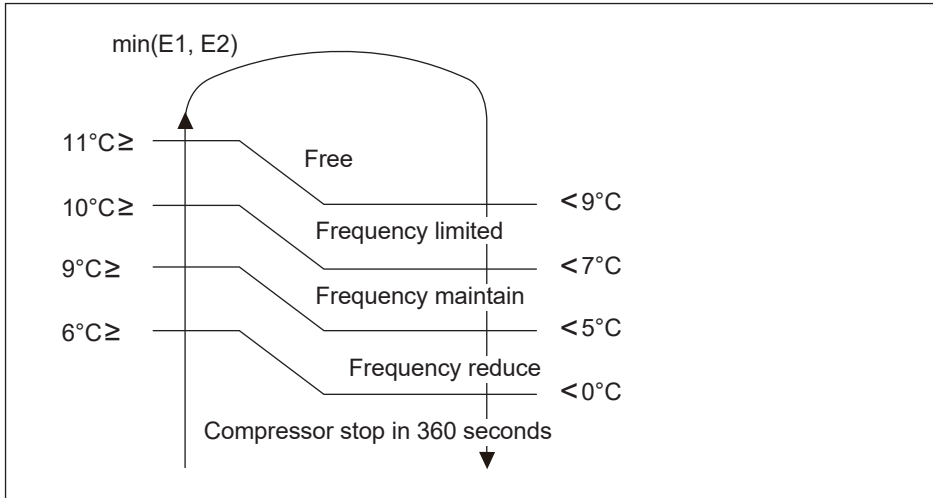
- The compressor operating frequency is regulated in accordance to indoor heat exchanger temperature as shown below.
- If the heat exchanger temperature exceeds 60°C, compressor will stop.



#### 4-12-6. Cooling Freeze Prevention Control

The following control is performed during cooling operations (including dry mode operation), in accordance with whichever of the indoor heat exchanger temperatures (E1 or E2) is lower. (See the chart below.)

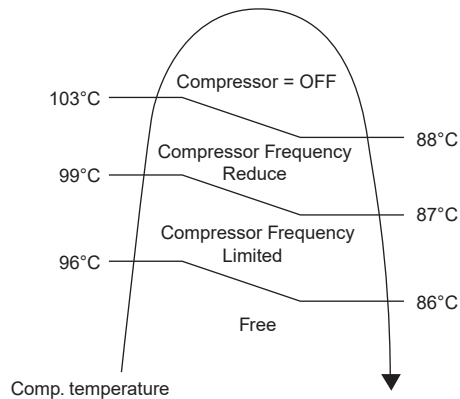
- (a) Frequency will not be decreased less than 5.5 minutes after thermostat ON.
- (b) The threshold value is increased in accordance with the indoor load (differences of temperature).



4

#### 4-12-7. Compressor Overheating Prevention Control

- Instructed frequency for compressor operation will be regulated by compressor temperature. The changes of frequency are as below.
- If compressor temperature exceeds 103°C, compressor will be stopped.

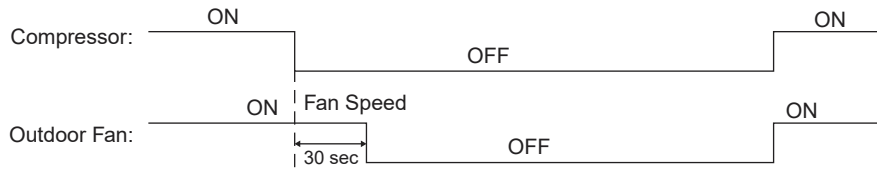


#### 4-12-8. Deice Operation

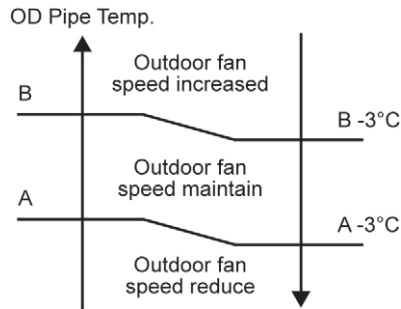
When outdoor pipe temperature and outdoor air temperature is low, deice operation start where indoor fan motor and outdoor fan motor stop.

#### 4-12-9. Outdoor Fan Motor Operation

Outdoor fan motor is operated with one fan speed only. It starts when compressor starts operation and it stops 30 seconds after compressor stops operation.

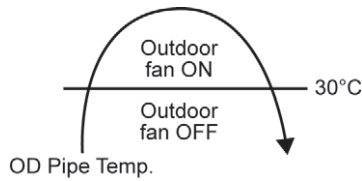


- During cooling operation, and outdoor ambient temperature is below 8°C, outdoor fan speed will be controlled according to outdoor piping temperature as following:



	OD Pipe Temperature
A	26°C
B	33°C

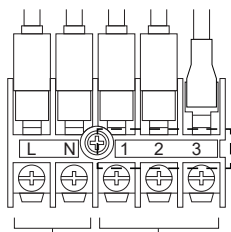
- During above condition, when indoor heat exchanger temperature is below 5°C, the outdoor fan will stop according to outdoor piping temperature as following:



## 4-13. Indoor Unit Control PCB Switches and Functions

### [Indoor unit control PCB]

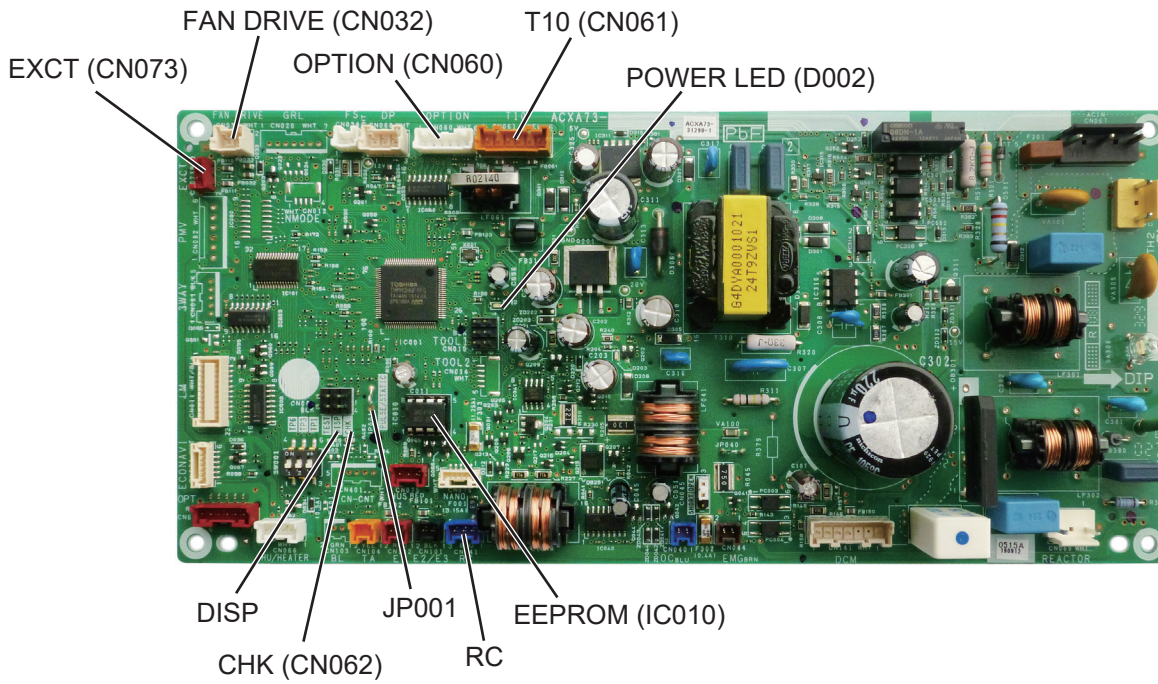
- T10 (CN061):** **6P plug (YEL)** / Used for remote control operation. (See the Remote Control Section.)  
Control items: (1) Start/stop input (2) Remote controller prohibit input  
(3) Start signal output (4) Alarm signal output
- EXCT (CN073):** **2P plug (RED)** / Can be used for demand control. When input is present, forces the unit to operate with the thermostat OFF.
- DISP (CN062):** **6P plug (BLK) 2-5Pin** / Short-circuiting this Pin allows operation to be controlled by the remote controller even when an outdoor unit is not connected. (In this case, alarm "E04," which indicates trouble in the serial communication between the indoor and outdoor unit, does not occur.)
- CHK (CN062):** **6P plug (BLK) 1-4Pin** / Test Pin. Short-circuiting this Pin allows the indoor FM (H fan speed), drain pump, flap motor (F1 position), and electronic expansion valve full-open position to be checked.  
However this function turns OFF if the indoor unit protection mechanism is activated. The components will operate even if the remote controller and outdoor unit are not connected, however the remote control cannot be used for control even if it is connected. This Pin can be used for short-term tests.
- JP1 (JP001):** **Jumper wire** / Allows selection of the T10 terminal start/stop signal. (See the Remote Control Section.)  
Setting at time of shipment: Pulse signal  
Jumper wire cut: Static signal (continuous signal)
- Fan drive (CN032):** **2P plug (WHT)** / This terminal sends the signal to the ventilation fan when a commercially available ventilation fan is operated by the FAN button on the wired remote controller. (See the Remote Control Section.)  
Use a ventilation fan which can accept the no-voltage contact A signal as the external input signal.
- Power LED:** **LED (RED)** / Illuminates when the power is ON. Flashes when there is trouble with the EEPROM (IC010: nonvolatile memory).
- EEPROM (IC010):** **Nonvolatile memory** / Used to store model information and other data. When replacing the PCB, remove the EEPROM from the old PCB and install it onto the new PCB. If there is IC trouble, replace with a new IC (provided with the servicing PCB), and set the necessary information using the wired remote controller. (For the setting procedure, see the servicing technical materials.)



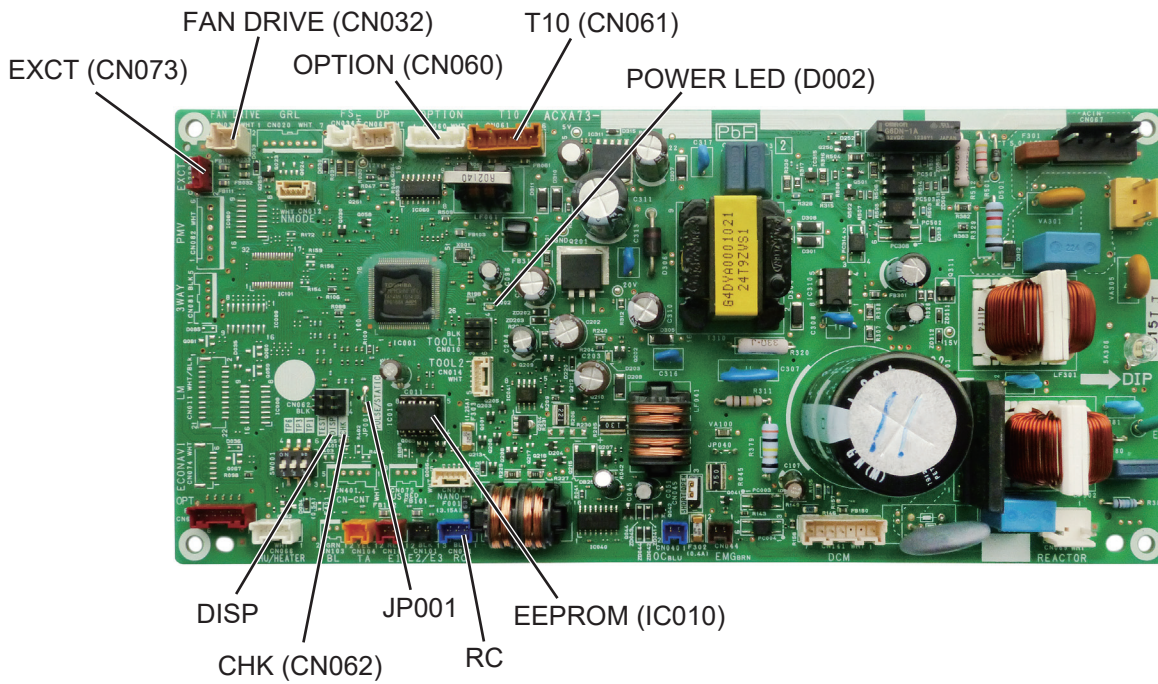
Power supply cable      Connection cable between outdoor and indoor unit

**Type U3, Type F3**

■ ACXA73-3129\* : 4-Way Cassette Type (Type U3) Indoor Unit Control Board



■ ACXA73-3440\* : Middle Static Pressure Duct Type (Type F3) Indoor Unit Control Board

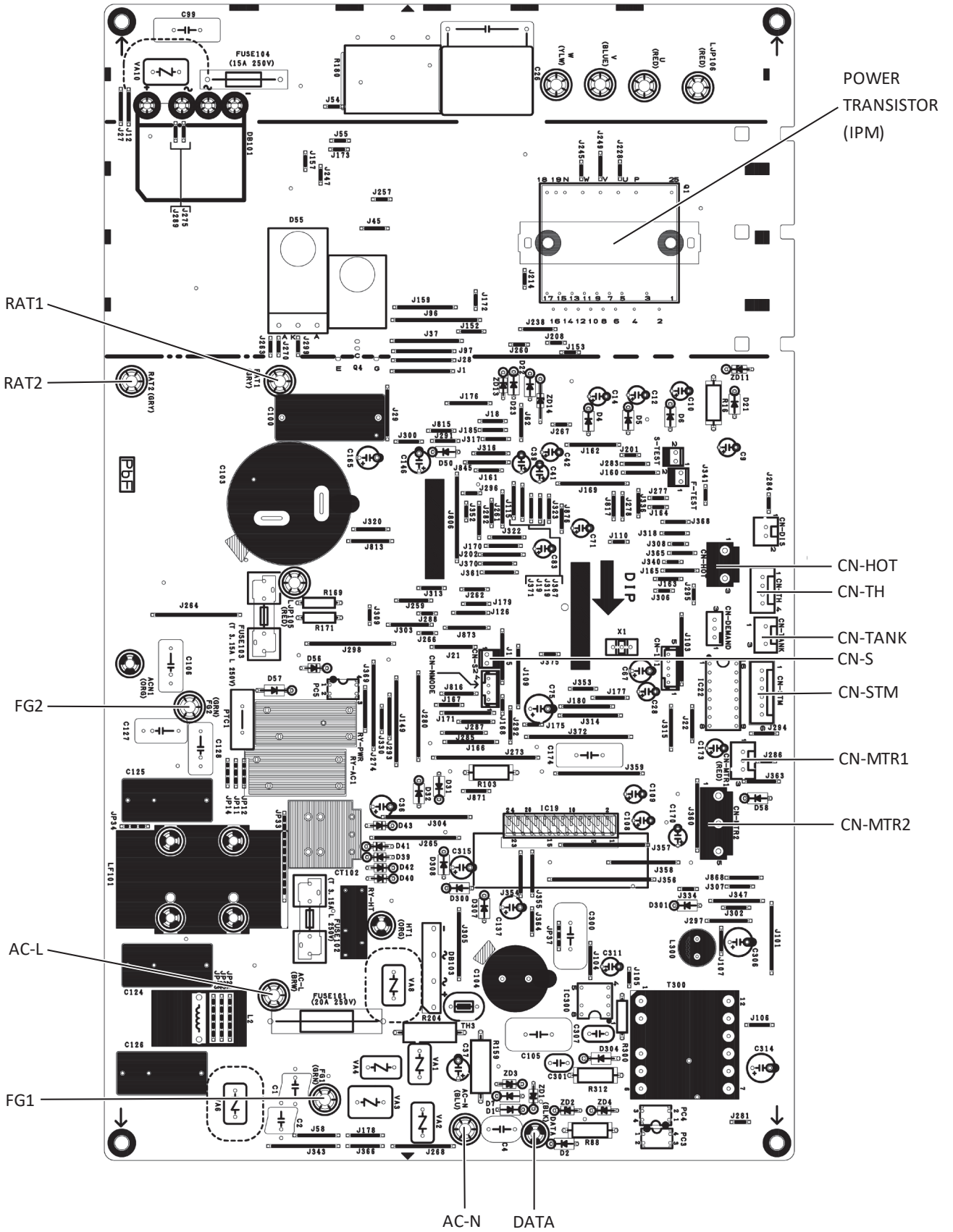


4-14. Outdoor Units Control PCB

4-14-1. Single-Phase Unit

■ CR-PCB  
ACXA73-3379\* (U-36PZ3E5)

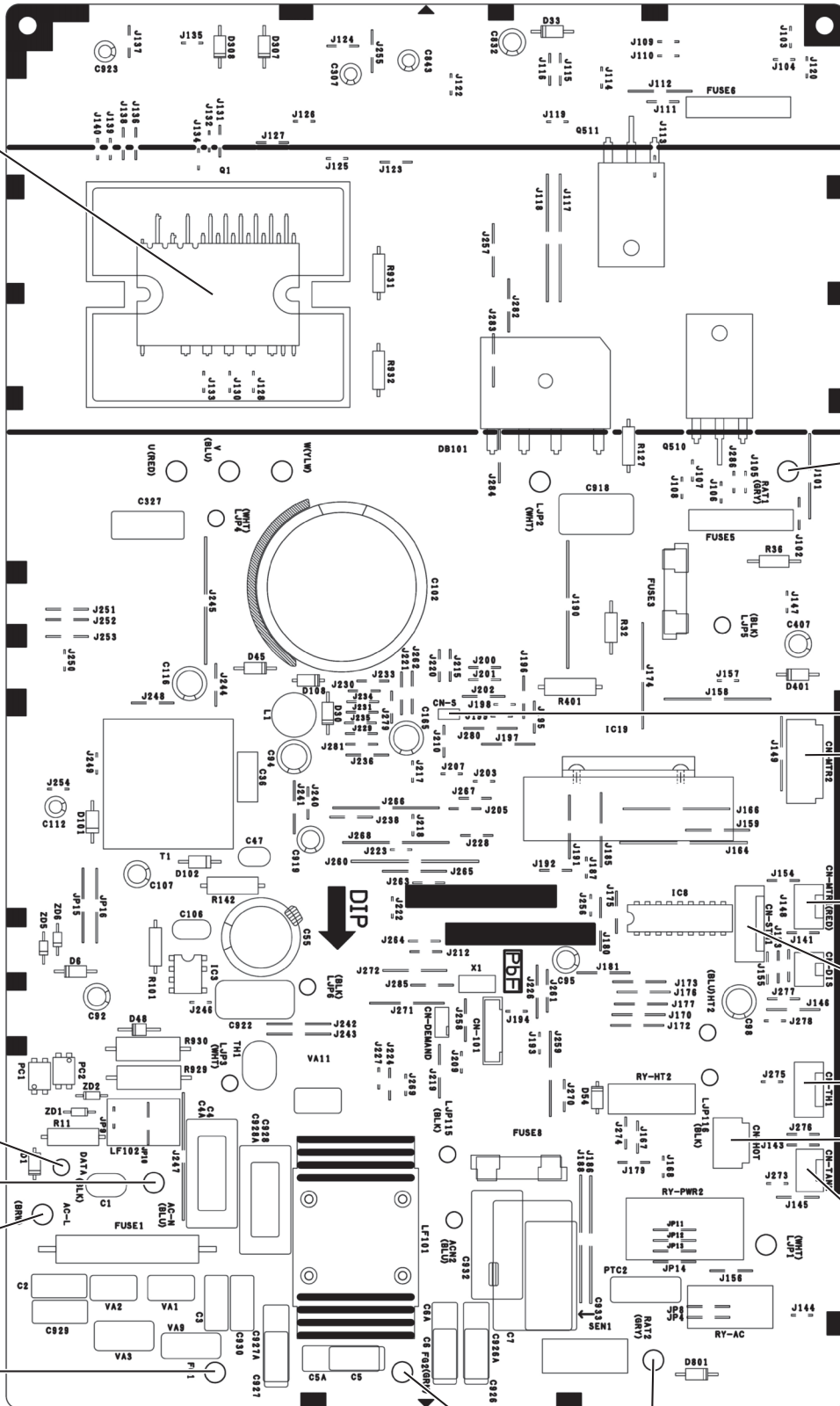
4



■ CR-PCB  
 ACXA73-3380\* (U-50PZ3E5, U-60PZ3E5, U-71PZ3E5)

POWER  
 TRANSISTOR  
 (IPM)

DATA  
 AC-N  
 AC-L  
 FG1



FG2

RAT2

RAT1

CN-S

CN-MTR2

CN-MTR1

CN-STM1

CN-TH1

CN-HOT

CN-TANK

#### 4-15. Self-Diagnostics Function Table

- Causes and corrections in instances when auto address setting cannot be started.

Trouble	Cause and correction
An alarm appears immediately when auto address setting is started from the remote controller.	Check the "Alarm Displays" table and correct the problem.
Nothing happens when the operator attempts to start auto address setting from the remote controller.	Check that the remote controller wiring and the inter-unit control wiring are connected correctly. Check that the indoor unit power is ON.

- Causes and corrections in instances when auto address setting starts, but cannot be completed successfully.

Trouble	Cause and correction
An alarm appears on the remote controller sometime from several seconds to several minutes after auto address setting is started.	Check the "Alarm Displays" table and correct the problem.

- If alarm E15, E16, or E20 appears after auto address setting is started, check the following items.

Alarm display	Alarm description
E15	The total capacity of indoor units is too lower than that of outdoor unit.
E16	The total capacity of indoor units is too higher than that of outdoor unit.



Check items	E15	E16	E20
Check that the indoor unit power is turned ON.	○		○
Check that the inter-unit control wiring is connected correctly. (Check that there are no open circuits, short circuits, terminal plugs, incorrect wiring to the remote controller terminals, or similar problems.)	○	○	○
Check that the remote controller wiring is connected correctly. (Check that there are no open circuits, short circuits, incorrect wiring to the inter-unit control wiring terminals, control wiring for group control, or similar problems.)	○		○
[ U3, F3 ] Check that there are no indoor units where the item code 11, 12, 13, 14 was already incorrectly set by manual or auto address setting.	○	○	

- When auto address setting is started from the remote controller, **SETTING** (SETTING) appears on the remote controller at units where the inter-unit control wiring and remote controller wiring are connected correctly.
- In the case of indoor unit group control, if there is a mistake in the remote controller inter-unit control wiring for group control, addresses may not be set even if **SETTING** (SETTING) appears.
- Even if alarm E15 or E16 appears, addresses are set at those indoor units which could be verified. The set addresses can be checked using the remote controller.
- If one of the below alarms appears when the remote controller is operated after auto address setting was completed.

Remote controller display	Cause
Nothing is displayed.	The remote controller is not connected correctly (power trouble). The indoor unit power was cut off after auto address setting was completed.
E01	The remote controller is not connected correctly (remote controller receiving trouble). The remote controller of an indoor unit where the indoor unit address is not set is inadvertently operated. (Communications with the outdoor unit are not possible.)
E02	The remote controller is not connected correctly (trouble with sending of the signal from the remote controller to the indoor unit).
P09	The indoor unit ceiling panel connector is not connected correctly.

Alarm Code	Alarm Meaning
E01	Remote Controller Reception Error
E02	Remote Controller Transmission Error
E03	Error in Indoor Unit Receiving Signal from Remote Controller (central)
E04	Error in Indoor Unit Receiving Signal from the Outdoor Unit
E08	Duplicate Indoor Unit Address Settings Error
E09	More Than One Remote Controller Set to Main Error
E12	Auto Address Setting Start is Prohibited while Auto address Setting in Progress.
E14	Main Unit duplication in Simultaneous-operation Multi Control (detected outdoor unit)
E15	Auto Address Alarm (The total capacity of indoor units is too low.)
E16	Auto Address Alarm (The total capacity of indoor units is too high or the total number of indoor units is too many.)
E18	Faulty Communication in Group Control Wiring

F04	Compressor Discharge Temperature Sensor (TD) Trouble
F06	Inlet Temperature Sensor (C1) in Heat Exchanger Trouble
F08	Outdoor Air Temperature Sensor (TO) Trouble

H01	Primary (input) Overcurrent Detected
H02	PAM Trouble
H03	Primary Current CT Sensor (current sensor) Failure

L18	4-Way Valve Operation Failure
-----	-------------------------------

P03	Compressor Discharge Temperature Trouble
P04	High Pressure Trouble
P05	AC Power Supply Trouble
P07	HIC (IPM) Temperature Trouble
P09	Faulty wiring connections of (ceiling) indoor unit panel
P13	Alarm Valve Open
P15	Insufficient Gas Level Detected
P16	Compressor Overcurrent Trouble
P22	Outdoor Unit Fan Motor Trouble
P29	Lack of INV compressor wiring, INV compressor actuation failure (including locked), DCCT failure
P31	Group Control Error

## 5. TROUBLE DIAGNOSIS

5-1.	Contents of Remote Controller Switch Alarm Display .....	5-1-1
5-2.	PAC System Alarm Codes	
1.	Indoor .....	5-2-1-1
2.	Outdoor .....	5-2-2-1
5-3.	Inspection of Parts (Outdoor Unit) .....	5-3-1
5-4.	How to Replace Fan Motor .....	5-4-1

## 5-1. Contents of Remote Controller Switch Alarm Display

ON: ○ Blinking: ☀ OFF: ●

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display									
				Operation	Timer	Standby							
Serial communication errors Missetting	Failure in receiving serial signal from remote controller's indoor unit	Faulty remote controller	E01	☀	●	●							
		Disconnection/Contact failure of remote controller wiring											
		CHK(check) pins on the indoor unit control PCB are short circuited											
	Settings of system address, indoor unit address and group control are not made	In the case of non-group control: • Power supply OFF of outdoor unit • Disconnection / Contact failure of inter-unit wiring					E01	☀	●	●			
		In the case of group control: Automatic address operation was not carried out.											
	Setting failure of nonvolatile memory IC	Faulty setting of EEPROM (IC010) on indoor unit					E02	☀	●	●			
	Failure in indoor unit serial signal from remote controller	Faulty remote controller											
		Wrong wiring of remote controller											
	Error in indoor unit receiving signal from remote controller (central)						E03	☀	●	●			
	Failure in indoor unit receiving serial signal from outdoor unit	Disconnection / Contact failure of inter-unit wiring					E04				●	●	☀
		• Faulty indoor unit control PCB • Faulty outdoor unit control PCB • Communication circuit fuse (F302) on indoor unit control PCB opened											
		• Fuse on outdoor unit control PCB opened Since failure of an outdoor fan motor is considered as a cause, both outdoor unit control PCB and outdoor unit fan motor are exchanged simultaneously.											
	Duplication of indoor unit address	Duplication of indoor unit address setting					E08				☀	●	●
	Duplication of main remote controller setting	Error because of more than one remote controller setting to main					E09						
	Improper setting	Automatic address setting start is prohibited					E12						
		Duplication of main unit in group control					E14						
	Communication error between main and sub indoor units	• Disconnection of wiring between main unit and additional units • Contact failure of wiring • Faulty indoor unit control PCB (Main or Addition)					E18	☀	●	●			
	Automatic address alarm	The total capacity of indoor units is too low					E15						
		• The total capacity of indoor units is too high • The numbers of indoor units is two or more.	E16	☀	●	☀							
Outdoor unit Communication error			E24										
Outdoor unit Communication error			E29										
Indoor & outdoor unit type miss-matched	Setting error, indoor/outdoor unit type/model miss-matched	L02	☀	●	☀								
Duplication of group control's main indoor unit	Duplication of main indoor unit address in group control	L03											
Group control wiring is connected to individual control indoor unit	Group control wiring is connected to individual control indoor unit	L07											
Indoor unit address is not set		L08											
Indoor unit capacity is not set		L09											
4-way valve locked trouble / operation failure			L18	☀	○	☀							

Continued

5

ON: ○ Blinking: ☀ OFF: ●

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display			
				Operation ☀	Timer ⌚	Standby ⊗	
Activation of protective device	Faulty wiring connections of (ceiling) indoor unit panel	Correct the wiring connection Correct insertion direction of connector (Hook is outside)	P09				
	Indoor unit fan motor trouble	Indoor unit fan motor locked	P01				
		Indoor unit fan motor layer short					
		Contact failure in thermostat protector circuit					
	Activation of float switch wiring	Faulty drain pump	P10				
		Drainage failure					
		Contact failure of float switch wiring					
	Faulty drain pump	Faulty drain pump	P11				
		Drain pump locked					
	WHE water freezing alarm	WHE water freezing error		●	☀	☀	
	Indoor unit fan motor trouble	Indoor unit fan motor locked	P12				
		Faulty wiring connections of indoor unit fan motor					
	Valve error	Valve error	P13				
		Refrigerant circuit error					
		Wrong installation for refrigerant piping and wiring					
	Activation of protective device	Discharge temperature protective alarm	Compressor discharge temperature trouble	P03			
		Activation of high pressure switch	Compressor discharge pressure trouble	P04			
		Power supply failure	Open phase detected	P05			
			AC power supply trouble				
		Insufficient gas	Insufficient gas level detected	P15			
Compressor overcurrent trouble			P16	☀	●	☀	
Fan motor locked/reversed airflow detected		Outdoor unit fan motor trouble	P22				
		Outdoor unit fan trouble					
WHE water pump interlock OFF alarm		WHE pump interlock error	P23				
Inverter compressor trouble			P29				
Group control trouble		Indoor unit in group control trouble	P31				
Activation of current control compressor's protective device		Primary (input) overcurrent detected	H01				
PAM trouble (overcurrent/over-voltage), Activation of compressor's protective device		PAM trouble	H02				
		Primary current control, Activation of compressor's protective device	Primary current CT sensor failure	H03	●	☀	●
Thermistor fault		Indoor unit thermistor open/short	Indoor heat exchanger temperature sensor (E1) trouble	F01			
	Indoor heat exchanger temperature sensor (E2) trouble		F02				
	Indoor air temperature sensor (TA) trouble		F10	☀	☀	●	
	Outdoor unit thermistor open/short	Compressor discharge temperature sensor (TD) trouble	F04				
		Outdoor heat exchanger temperature sensor (C1) trouble	F06				
		Outdoor air temperature sensor (TO) trouble	F08	☀	☀	○	
Nonvolatile memory failure	Indoor unit EEPROM trouble	F29					
			☀	☀	●		

## 5-2. PAC System Alarm Codes

### 1. Indoor

#### Alarms for indoor units

Alarm Code	Alarm Meaning
E01	Remote Controller Reception Error
E02	Remote Controller Transmission Error
E03	Error in Indoor Unit Receiving Signal from Remote Controller (central)
E04	Error in Indoor Unit Receiving Signal from the Outdoor Unit
E08	Duplicate Indoor Unit Address Settings Error
E09	More Than One Remote Controller Set to Main Error
E12	Automatic Address Setting Start is Prohibited while Auto-address Setting in Progress.
E14	Main Unit duplication in Simultaneous-operation Multi Control (detected outdoor unit)
E15	Automatic Address Alarm (The total capacity of indoor units is too low.)
E16	Automatic Address Alarm (The total capacity of indoor units is too high or the total number of indoor units is too many.)
E18	Faulty Communication in Group Control Wiring
P09	Faulty wiring connections of (ceiling) indoor unit panel
P31	Group Control Error

## Check Prior to Auto Address Setting

\* If an outdoor unit displays an alarm, conduct this process after diagnosing the problem.

1 Auto Address	1-1	Is the power of the indoor unit(s) and outdoor unit(s) on?	Yes	2-1
			No	Power on
2 Indoor/outdoor wiring	2-1	Has the wiring of the indoor/outdoor been completed? Is it all connected correctly?	Yes	3-1
			No	Connect the wiring correctly
3 Installation or setting related	3-1	Be sure that the indoor and outdoor units are connected with correct combination written in catalog.	Yes	3-2
			No	Correct the connection
	3-2	Is the remote control wiring connected with two indoor/outdoor combinations or more for group control?	Yes	3-3
			No	3-4
3-3	Turn on the power of only one system and run auto address setting again. Upon completion of the auto address setting, turn on the power for the next system and run auto address setting while still power switched on, units whose auto address setting have completed. (In the case of multiple systems, run the auto address setting respectively in due order for each system.)			
3-4	Run the auto address setting.			
4 Relocation and resetting of address [ U3, F3 ]	4-1	Be sure that the indoor and outdoor units are connected with correct combination described in the catalog.	Yes	4-2
			No	Correct the connection
	4-2	Be sure that the detailed setting items are made at factory setting.	Yes	4-3
			No	Correct the setting
4-3	Run the auto address setting.			

• For information on the remote control's detailed settings, refer to the Reference Materials.

### • Factory setting

Item code	Item	Value
11	Indoor unit capacity	0
12	System address	99
13	Indoor unit address	99
14	Group control address	99

## E01 Remote Controller Reception Error

(When indoor unit(s) are connected)

### 1. Error Detection Method

It is judged an error if no self-addressed communication is sent to the remote controller in a 3-minute period.

- When a remote controller is set to sub remote controller.
- When there are nine or more indoor units in a remote control group's wiring.
- When the CHK (check pin) and/or TEST (test pin) on the indoor unit control PC board are short circuited.
- The nonvolatile memory (EEPROM) is not installed or faulty when turning on the power.
- Indoor unit control PC board error
- Remote controller check mode
- Malfunctions of the remote controller itself (reception circuit error)

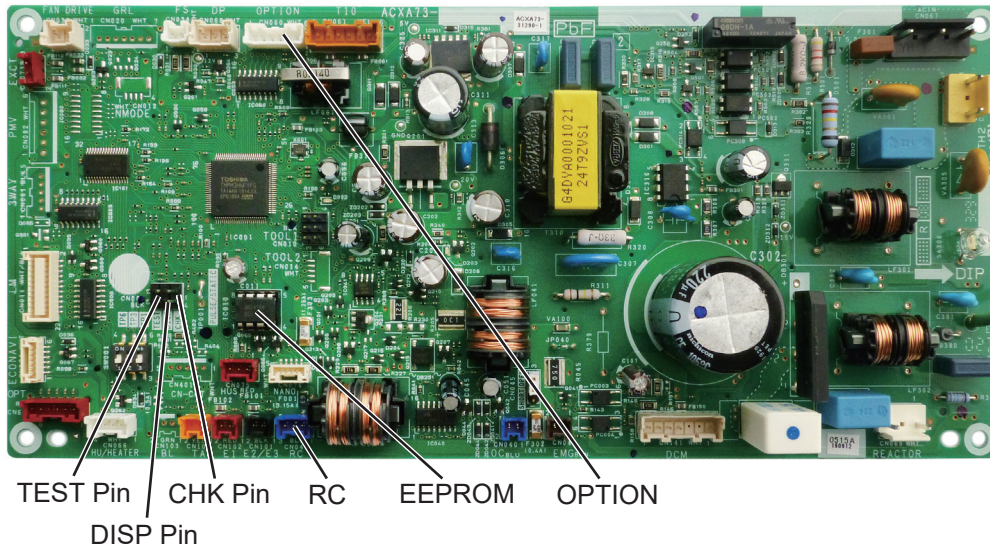
### 2. Error Diagnosis

1 Auto Address	1-1	Is auto address setting complete?	Yes	1-2
			No	1-3
	1-2	Is there an auto address setting error (Is the outdoor unit showing an alarm)?	Yes	1-3
			No	2-1
1-3	Conduct checks prior to auto address setting.			
2 Group Control Wiring	2-1	Is that indoor unit under group control?	Yes	2-2
			No	3-1
	2-2	Are there any indoor units with their power off in the remote control group's wiring?	Yes	Power on
			No	2-3
	2-3	Are nine or more indoor units connected in one remote control group's wiring?	Yes	Correct the wiring
			No	2-4
2-4	Was the remote control group's wiring changed after auto address setting was complete? Alternatively, were group settings changed in the remote control detailed settings mode?	Yes	2-5	
		No	3-1	
2-5	No main unit in the remote control group's wiring? Re-execute auto address setting.			
3 Installation or setting related	3-1	Are the CHK pin and TEST pin on the indoor unit control board short-circuited?	Yes	Remove the short
			No	3-2
	3-2	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	3-3
			No	3-5
	3-3	Disconnect the connector mentioned above on the PC board of the indoor unit control PC board, and see whether the E01 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	3-4
			No	3-5
	3-4	Replace wireless remote control parts including wiring.		
	3-5	Is the LED blinking on the indoor unit's control PC board?	Yes	3-6
No			3-7	
3-6	The nonvolatile memory (EEPROM) on the indoor unit's control PC board is either not installed, improperly installed or the nonvolatile memory is faulty. Correct this or after replacing the nonvolatile memory, write model data to it in the remote control detailed settings mode.			
3-7	Is there a short, miswiring, disconnection, wrong contact or grounding in the remote control's wiring?	Yes	Correct the wiring	
		No	Replace the indoor unit's control board.	

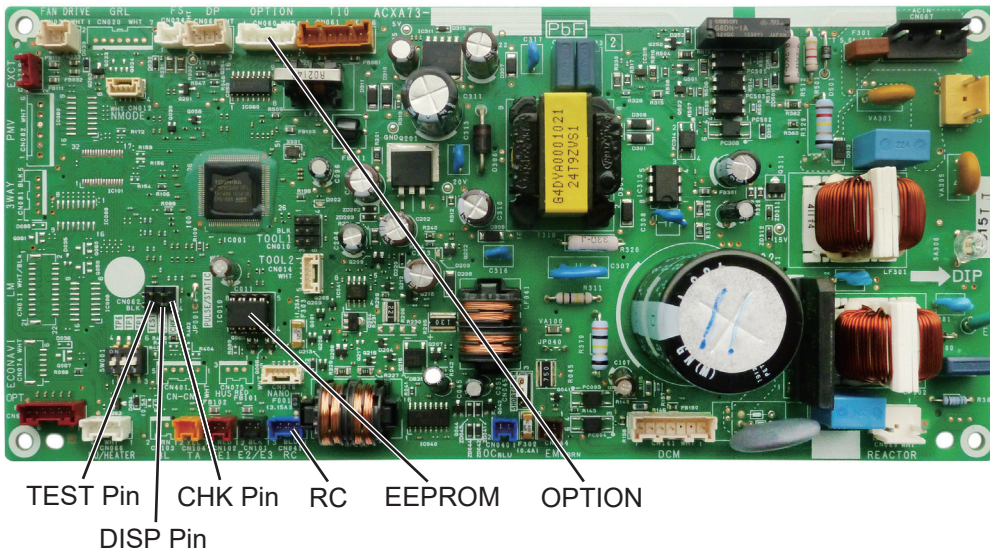
- Regarding the remote controller check, refer to the Reference Materials.
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit and/or replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit service board.



**ACXA73-3129\* : 4-Way Cassette Type (Type U3) Indoor Unit Control Board**



**ACXA73-3440\* : Middle Static Pressure Duct Type (Type F3) Indoor Unit Control Board**



## E02 Remote Controller Transmission Error

### 1. Error Detection Method

When the remote controller itself cannot transmit. Or when it cannot receive the signal it transmitted itself, or when they are different and judged an error.

- Malfunction of the remote controller itself (transmit circuit error)

### 2. Error Diagnosis

1 Remote Control Group Wiring	1-1	Is the indoor unit under group control?	Yes	1-2
			No	2-1
	1-2	Are the wires 1 (white) & 2 (black) to the remote control group shorted or opened?	Yes	Correct the wiring
			No	2-1
2 Group Control Wiring	2-1	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	2-2
			No	2-4
	2-2	Disconnect the connector mentioned above on the board of the indoor unit control PC board, and see whether the E02 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	2-3
			No	2-4
	2-3	Replace wireless remote control parts including wiring.		
	2-4	Is there a short, miswiring, open, wrong contact or grounding in the remote control's wiring?	Yes	Correct the wiring
No			Replace the indoor unit's control PC board	

- Regarding the remote controller check, refer to the Reference Materials.
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit and/or replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit service board.

## E03 Error in Indoor Unit Receiving Signal from Remote Controller (central)

(When indoor unit(s) are connected)

### 1. Error Detection Method

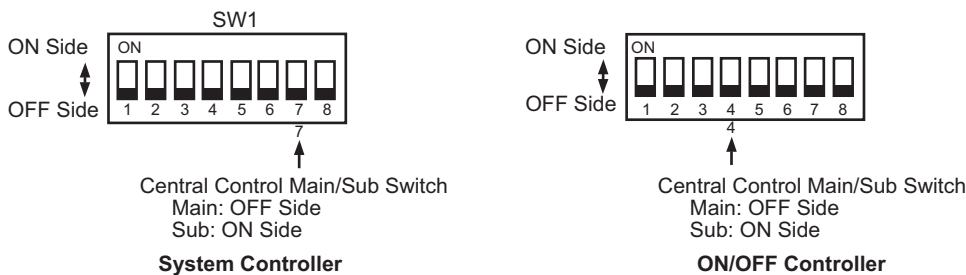
It is judged an error when there is no communication from any remote controller (collectively) in a 3-minute period or if there is no communication from the central device in a 15-minute period.

- When there was once communication, but during use the remote control wiring is opened or miswired.
- The line to the central control unit for indoor/outdoor operations is opened.
- Settings are made only for sub remote controller.
- The power to the central control unit is not on and remote controllers are not being used (or the indoor/outdoor operations line to the central control unit is opened).
- When remote controller are not being used, only the sub remote controller is set up.

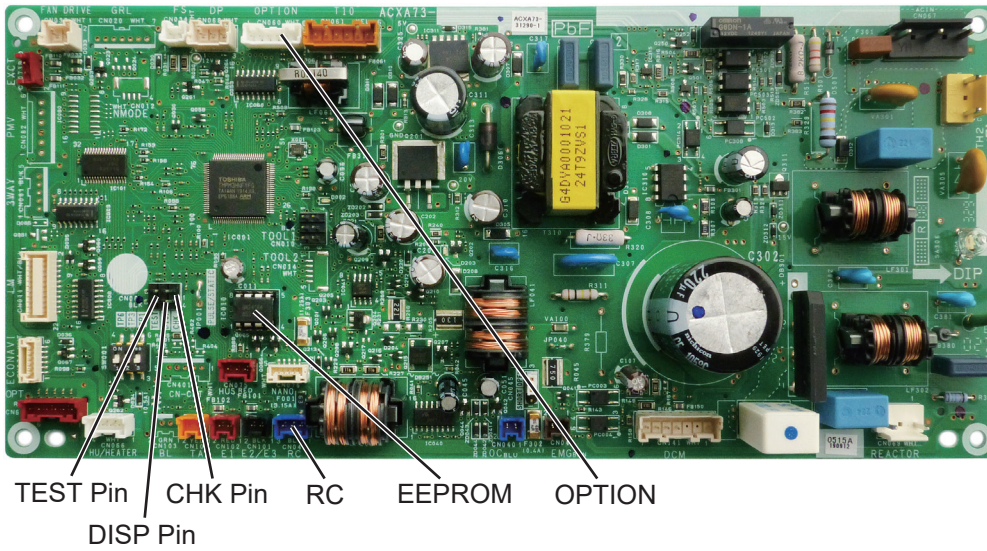
### 2. Error Diagnosis

1 Central control unit	1-1	Is the central control unit connected?	Yes	1-2
			No	2-1
	1-2	Is the central control unit's powered off?	Yes	Power on
			No	1-3
	1-3	Are all the Main/Sub switches on the connected central control unit set to Sub?	Yes	1-4
			No	1-5
1-4	Of the central control units that are connected, set only the uppermost central control unit to Main and the others to Sub. The order from top to bottom is communication adaptor → system controller → ON/OFF controller.			
1-5	Is the indoor/outdoor operations line connected to the central control unit opened?	Yes	Correct the setting	
		No	2-1	
2 Remote controller	2-1	Is the indoor unit under group control?	Yes	2-2
			No	3-1
	2-2	Are the wires 1 (white) & 2 (black) to the remote control group opened, have wrong contact or grounded?	Yes	Correct the setting
			No	3-1
3 Indoor unit control PC board	3-1	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	3-2
			No	3-4
	3-2	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board, and see whether the E03 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	3-3
			No	3-4
	3-3	Replace wireless remote control parts including wiring.		
3-4	Is there a short, miswiring, open, wrong contact or grounding in the remote control's wiring?	Yes	Correct the wiring	
		No	Replace the indoor unit control board	

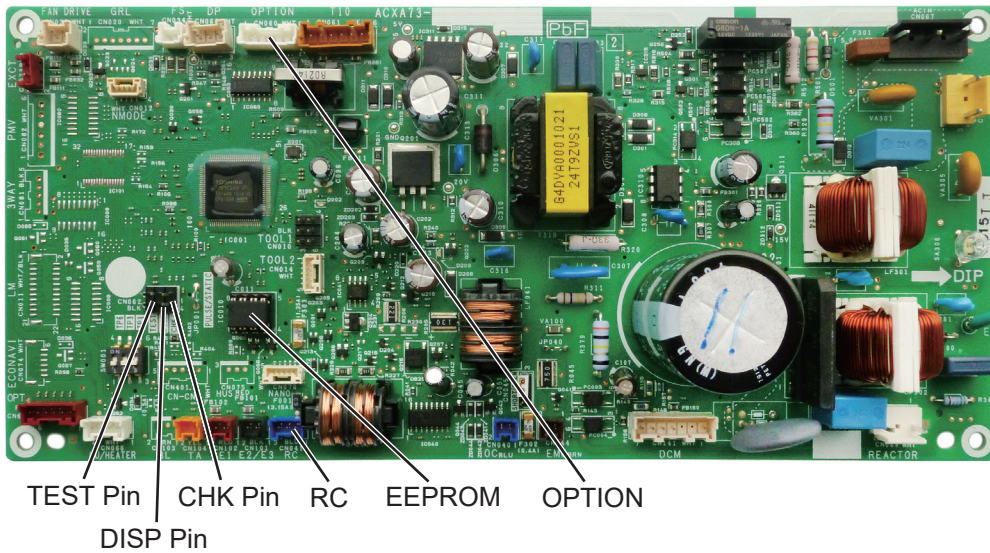
- Regarding the remote controller check, refer to the Reference Materials.
- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit and/or replacing the indoor unit's control board, refer to the manual that is packaged with the indoor unit service board.



**ACXA73-3129\* : 4-Way Cassette Type (Type U3) Indoor Unit Control Board**



**ACXA73-3440\* : Middle Static Pressure Duct Type (Type F3) Indoor Unit Control Board**



5

## E04 Error in Indoor Unit Receiving Signal from the Outdoor unit

### 1. Error Detection Method

When there is no communication within a 3-minute period from the outdoor unit. Or, judged an error when no reply comes from the outdoor unit.

- The outdoor unit is not turned on.
- When the network of indoor/outdoor operation line was wired, the (SHORT) setting of the terminal resistor switch on the outdoor control PC board was set on multiple units (four or more).
- When the power was turned on after auto address setting was completed, the number of indoor units had been changed.
- Forgot to turn on the indoor unit.
- The CHK pin and/or TEST pin on the indoor unit's control PC board are shorted.
- Forgot to install the nonvolatile memory (EEPROM) when replacing the indoor unit control PC board.
- Mistakenly set the indoor unit address to Not Set in the remote control's detailed setting mode.
- When indoor unit addresses are duplicated.
- There is a short, open, wrong contact or grounding of the indoor/outdoor operation line.
- There is an error in the receiving circuit on the signal output PC board (optional control PC board).
- Malfunctions of the outdoor unit
- The thermistor inside the indoor unit is grounded.

### 2. Error Diagnosis

1 Power Source	1-1	Is/was the power to the outdoor unit cut off?	Yes	After turning the power on, wait three minutes
			No	1-2
	1-2	Is the indoor unit powered off?	Yes	Power on
			No	2-1
2 Indoor/outdoor wiring	2-1	Is the indoor/outdoor wiring connected correctly?	Yes	3-1
			No	Correct the wiring
3 No. of Indoor Units	3-1	Was the number of indoor units increased or decreased after auto address setting was complete?	Yes	3-2
			No	3-3
	3-2	Conduct checks prior to auto address setting.		
	3-3	Check the indoor unit addresses from the remote control's detailed settings mode. Is it Not Set (99), or is the indoor unit's address duplicated?	Yes	3-2
			No	4-1
4 Indoor unit control PC board	4-1	Are the CHK pin and/or TEST pin on the indoor unit control PC board short-circuited?	Yes	Remove the short
			No	4-2
	4-2	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	4-3
			No	4-5
	4-3	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board, and see whether the E04 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	4-4
			No	4-5
	4-4	Replace wireless remote control parts including wiring.		
4-5	Is the LED on the indoor unit control PC board blinking?	Yes	4-6	
		No	4-7	
4-6	The nonvolatile memory (EEPROM) on the indoor unit's control PC board is either not installed, improperly installed or the nonvolatile memory is faulty. Correct this or after replacing the nonvolatile memory, write model data to it in the remote control detailed settings mode.			
4-7	Are all the remote controllers of the other indoor units connected to that outdoor unit displaying E04?	Yes	Replace the outdoor unit control board	
		No	Replace the indoor unit control board	

## E08 Duplicate Indoor Unit Address Settings Error

### 1. Error Detection Method

It is judged an error if the addresses of indoor units are duplicated.

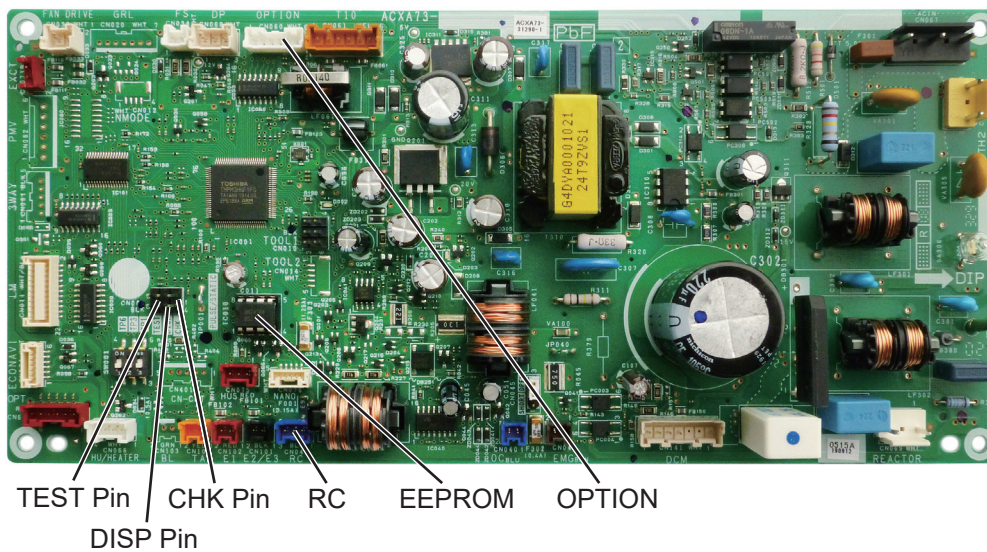
- The indoor unit address settings are duplicated in the remote control detailed settings mode.
- The multiple unit DISP pin is shorted across the indoor unit whose address is Not Set.

### 2. Error Diagnosis

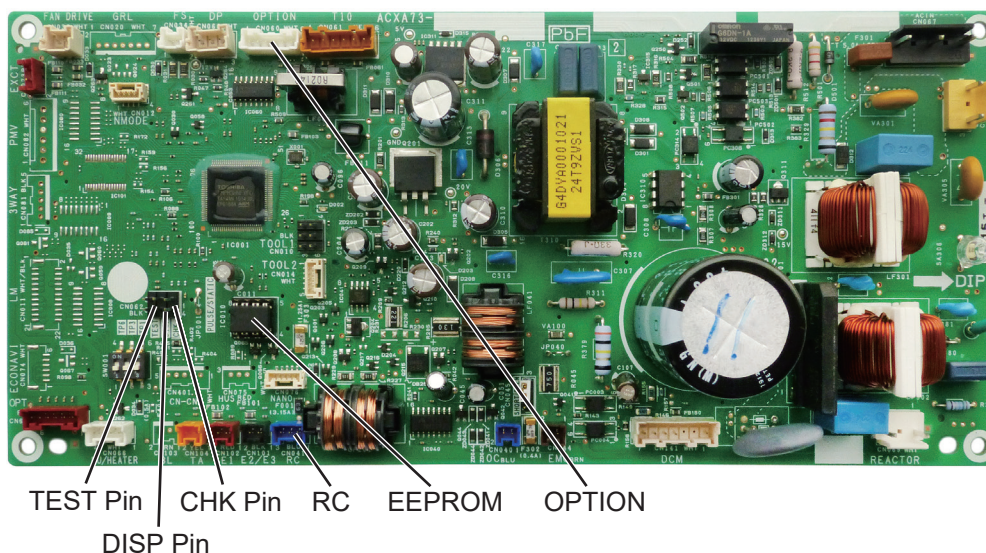
1 Indoor unit control PC board	1-1	Is the DISP pin on the indoor unit control PC board shorted?	Yes	Remove the short
			No	1-2
1-2	Conduct checks prior to auto address setting. Does E08 fail to go off even after running auto address setting again?		Yes	1-3
			No	1-4
1-3	The nonvolatile memory (EEPROM) on the indoor unit board has failed. ↓ Replace the EEPROM.			
1-4	Do not make changes to indoor unit addresses with the detailed settings of the remote controller. Make them in the remote control address change mode.			

- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit, refer to the manual that is packaged with the indoor unit service board.

### ACXA73-3129\* : 4-Way Cassette Type (Type U3) Indoor Unit Control Board



### ACXA73-3440\* : Middle Static Pressure Duct Type (Type F3) Indoor Unit Control Board



# E09 More Than One Remote Controller Set to Main Error

## 1. Error Detection Method

It is judged an error when more than one remote controller in a remote control group is set as the main remote controller.

- Forgot to set one remote controller to sub in a 2-remote control group.
- When using one wireless and one wired remote controller in a control group, forgot to set one of them to sub.

## 2. Error Diagnosis

1 Remote controller	1-1	Set one of the 2 remote controllers to sub.
---------------------	-----	---

- Method for setting a remote controller to sub

<CZ-RTC4>

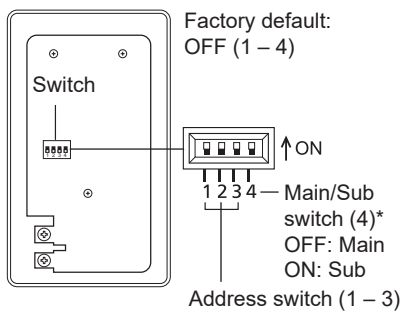
1. Press and hold + + buttons for several seconds simultaneously.
2. This will display **SETTING**, the CODE No. "01" and the SET DATA "0001" or the like on the remote controller's display.
3. Press / buttons to select the CODE No. to "01".
4. Press / buttons to select the SET DATA to "0000". (0000: Sub 0001: Main)
5. Press button (Once the display changes from flashing to steady, the setting is complete).
6. Once you press button, the remote controller returns to its normal display.

<CZ-RTC5B>

1. Press and hold + + buttons for 4 seconds or more simultaneously.
2. Press / buttons to select the "3. RC. setting mode" and press the button.
3. The Code no. "01" and the Set data "0001" or the like on the remote controller's display.
4. Press / buttons to select the Code no. to "01" and press the button.
5. Press / buttons to select the Set data to "0000" (0000: Sub 0001: Main) and press the button.
6. Press button. After selecting [YES], the unit restarts.

Wireless remote controller

### CZ-RWRC3

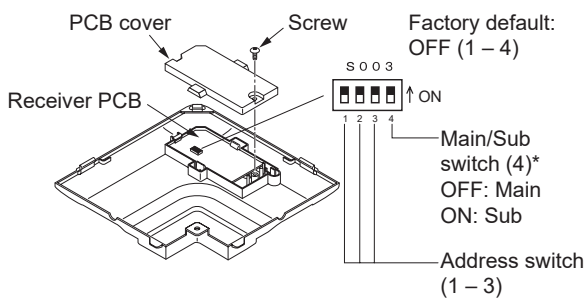


### Main/Sub setting

- Use this to set Main/Sub for the remote controller and the receiver.
- Set one to [Main] and the other to [Sub].
- Factory default: [Main]
- It is recommended to set the wired remote controller to [Main].

Main/Sub	MAIN	SUB
Main/Sub switch position		
	1 2 3 4	1 2 3 4

### CZ-RWRU3



\* When using the infrared remote controller and the wired remote controller in combination, set the wired remote controller to [Main].

## E12 Automatic Address Setting Start is Prohibited While Auto-address Setting in Progress.

### 1. Error Detection Method

It is judged an error if a command to start auto address setting comes from another controller during auto address setting.

- This occurs in a system that has more than one outdoor unit and operating lines among the indoor/outdoor units (networked wiring), when an instruction to start auto address setting is given from another controller during the auto address setting process.

### 2. Error Diagnosis

1 Auto Address	1-1	When one controller in a networked system is running auto address setting, it is not possible to start auto address setting from another controller. Wait until the auto address setting in progress finishes.
----------------	-----	---



## E14 Main Unit duplication in Simultaneous-operation Multi Control (detected outdoor unit)

### 1. Error Detection Method

It is judged an error that the main units are duplicated in the indoor unit group.

- Main unit setting was made in the indoor unit group control setting of the remote control detailed settings mode.

### 2. Failure Diagnosis

1 Group Control Address	1-1	Are multiple indoor units set up as the main unit?	Yes	2-1
			No	2-2
2 Installation & Setting	2-1	Set up only one indoor unit as the main unit and other indoor units to the sub-unit.		
	2-2	Carry out the auto address setting.		

## E15 Automatic Address Alarm (The total capacity of indoor units is too low.)

### 1. Error Detection Method

Connecting indoor unit

It is judged an error the total capacity of indoor units replied by communication is lower than that of outdoor unit.

- The total capacity of indoor units is lower than that of outdoor unit.
- Some indoor unit(s) are connected but power is not turned on.
- The CHK pin (CN062/CN071) and/or TEST pin (CN064) of the indoor unit is shorted when its power is turned on.

### 2. Error Diagnosis

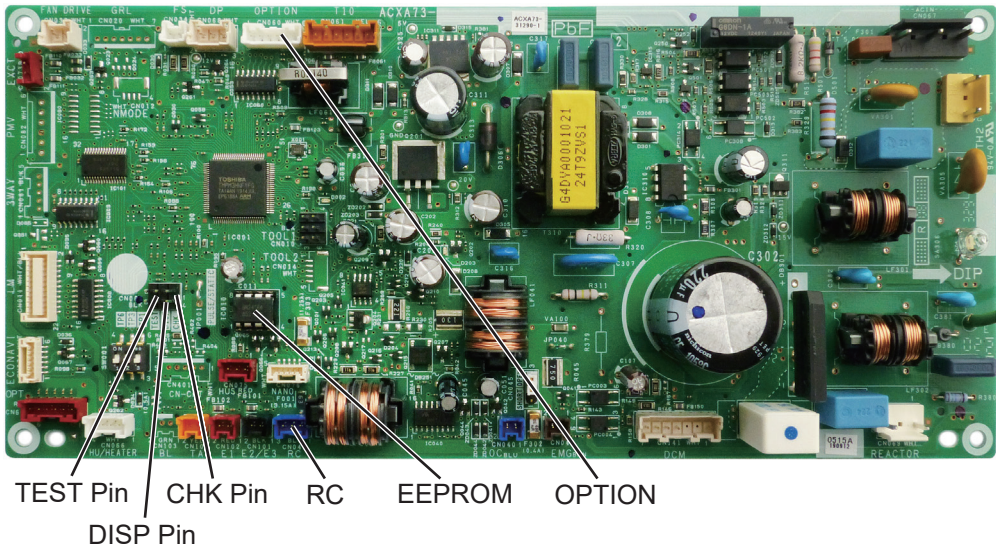
1 Power Source	1-1	Is the indoor unit powered off?	Yes	Power on
			No	2-1
2 Indoor/outdoor wiring	2-1	Is the indoor/outdoor wiring connected correctly?	Yes	3-1
			No	Correct the wiring
3 No. of Indoor Units	3-1	Was the number of indoor units changed after auto address setting finished?	Yes	3-2
	3-2	Conduct checks prior to auto address setting.	No	4-1
4 Indoor unit control PC board	4-1	Be sure that the detailed setting items are made at factory setting. [ U3, F3 ]	Yes	4-2
			No	Correct the setting Run the auto address
	4-2	Are the CHK Pin and TEST Pin on the indoor unit control board short-circuited?	Yes	Remove the short
			No	4-3
	4-3	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	4-4
			No	4-6
	4-4	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board and see whether the E15 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	4-5
			No	4-6
4-5	Replace wireless remote control parts including wiring.			
4-6	Is the LED blinking on the indoor unit's control PC board?	Yes	4-7	
		No	5-1	
4-7	The nonvolatile memory (EEPROM) on the indoor unit's control board is either not installed, improperly installed or the nonvolatile memory is faulty. Correct this or after replacing the nonvolatile memory, write model data to it in the remote control detailed settings mode.			
5 Outdoor unit control PC board	5-1	Check all items under the section "Check Prior to Auto Address Setting".		

#### • Factory setting

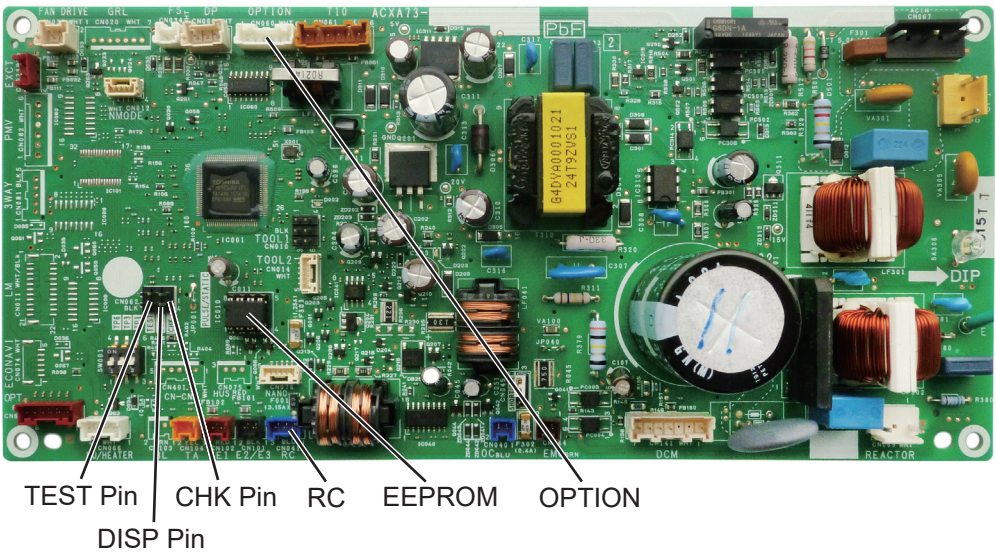
Item code	Item	Value
11	Indoor unit capacity	0
12	System address	99
13	Indoor unit address	99
14	Group control address	99

- For information on the procedures for replacing the nonvolatile memory (EEPROM) of the indoor unit, refer to the manual that is packaged with the indoor unit service board.
- For information on the remote control's detailed settings, refer to the Reference Materials.
- The alarm also occurs when the indoor unit cannot be recognized (indoor unit only blackout, disconnection of indoor/outdoor operation line, etc.) during auto address setting.

**ACXA73-3129\* : 4-Way Cassette Type (Type U3) Indoor Unit Control Board**



**ACXA73-3440\* : Middle Static Pressure Duct Type (Type F3) Indoor Unit Control Board**



## E16 Automatic Address Alarm (The total capacity of indoor units is too high.)

### 1. Error Detection Method

It is judged an error the total capacity of indoor units is too high or the total number of indoor units is too many.

- The total capacity of indoor units is too high.
- The total number of indoor units is too many.

### 2. Error Diagnosis

1 Indoor unit control PC board [ U3, F3 ]	1-1	Be sure that the detailed setting items are made at factory setting.	Yes	2-1
			No	Correct the setting Run the auto address
2 Auto Address	2-1	Check all items under the section "Check Prior to Auto Address Setting".		

#### • Factory setting

Item code	Item	Value
11	Indoor unit capacity	0
12	System address	99
13	Indoor unit address	99
14	Group control address	99

## E18 Faulty Communication in Group Control Wiring

### 1. Error Detection Method

When the main remote controller cannot communicate with a sub remote controller in the remote control group.

It is judged an error if a sub remote controller in a remote control group fails to communicate with the main remote controller for a period of three minutes.

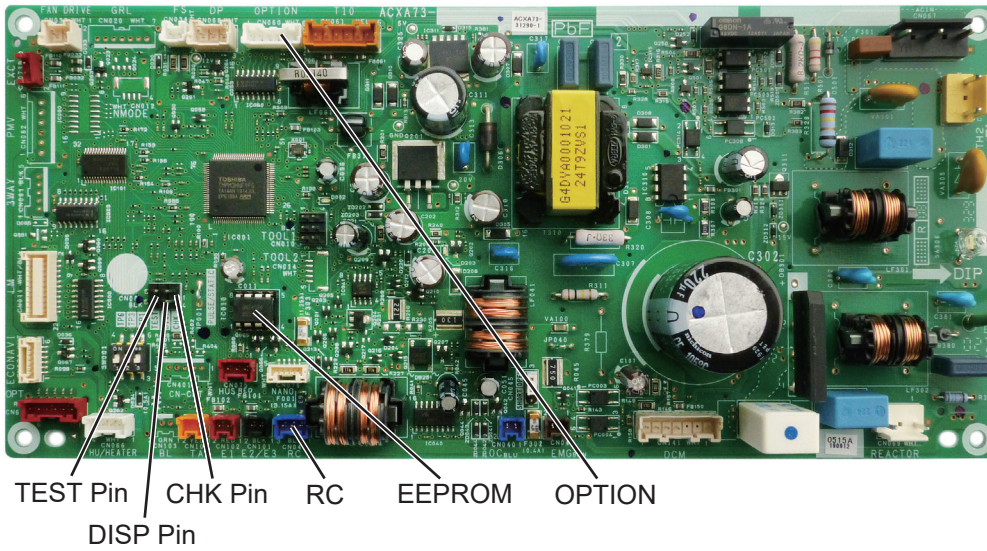
- An indoor unit within the control group does not have its power on.
- The CHK pin and TEXT pin on the indoor unit in the control group are shorted.
- The DISP pin of an indoor unit sub remote controller in the control group is shorted.
- Remote control group wiring is opened.
- More than one indoor unit in the control group is set to Main.
- An indoor unit in the control group is set to Separate.

### 2. Error Diagnosis

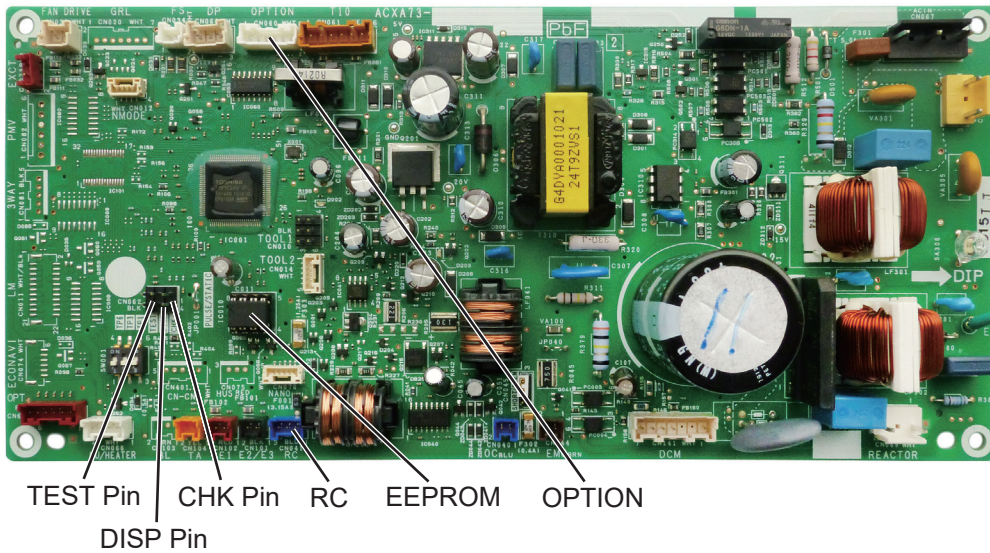
1 Indoor Unit	1-1	Is the indoor unit powered off?	Yes	Power on
			No	1-2
	1-2	Are the CHK pin, TEST pin and DISP pin on the indoor unit control PC board short-circuited?	Yes	Remove the short
			No	2-1
2 Substitute Sub Remote Controller	2-1	Is the remote control group's wiring opened?	Yes	Correct the wiring
			No	2-2
	2-2	Check the group settings (Item Code 14) from the remote control's detailed settings mode. Is the main remote controller (1) set to more than one remote controller or to separate (0)?	Yes	2-3
			No	3-1
	2-3	Is the wiring of the remote control group wired according to the wiring diagram?	Yes	2-4
			No	2-5
2-4	Run the auto address setting again.			
2-5	Run the auto address setting again after correcting the wiring of the remote control group.			
3 Indoor unit control PCB	3-1	Is the wireless remote controller connected to on the indoor unit's control PC board?	Yes	3-2
			No	3-4
	3-2	Disconnect the connector mentioned above on the control PC board of the indoor unit control PC board, and see whether the E18 goes off after several minutes. (When doing so, if two remote controllers are being used and the wireless remote controller is the main remote controller, set the other remote controller as the main.)	Yes	3-3
			No	3-4
	3-3	Replace wireless remote control parts including wiring.		
3-4	Replace the indoor unit control PC board.			

- For information on the remote control's detailed settings, refer to the Reference Materials.
- For information on the procedures for replacing the Indoor unit control PCB, refer to the manual that is packaged with the indoor unit service board.

**ACXA73-3129\* : 4-Way Cassette Type (Type U3) Indoor Unit Control Board**



**ACXA73-3440\* : Middle Static Pressure Duct Type (Type F3) Indoor Unit Control Board**



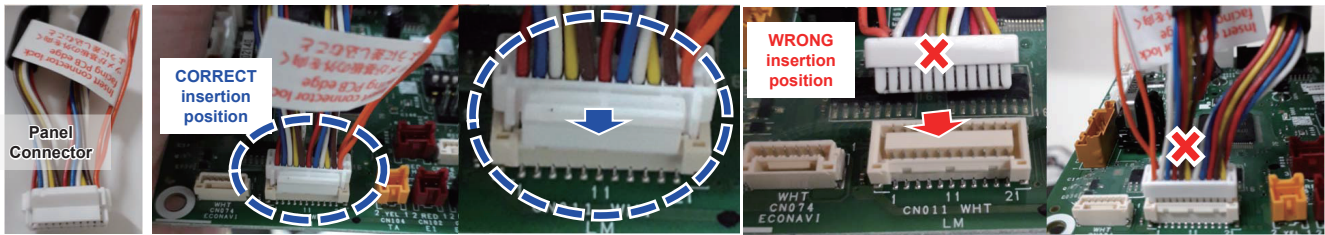
5

## P09 Error description : Indoor unit ceiling cassette air swing motor do not operate

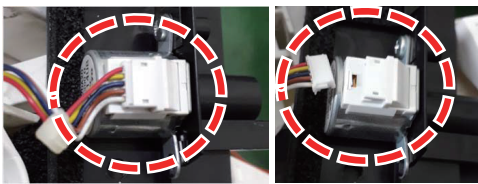
Error was judged as no connection between the ceiling cassette panel into Indoor PCB communication (feedback signal).

### Possible Causes

1. Indoor unit ceiling cassette panel connector was not properly / wrongly connected into the PCB connector

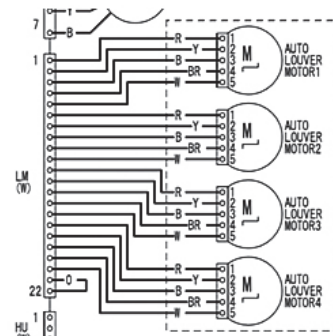


2. Air swing motor (inside the panel) was locked (jammed) or no operation  
=> Check the air swing motor shaft can be rotate with hand
3. Air swing motor (inside the panel) wiring connector loosen or wire broken  
=> Check the air swing motor wire connector connection



4. Indoor PCB for air swing control was malfunction

- => Check with multi meter at pin 1(red)-2, 1-3, 1-4 & 1-5 : 12Vdc
- => Check with multi meter at pin 6 (red)-7, 6-8, 6-9 & 6-10 : 12Vdc
- => Check with multi meter at pin 11 (red)-12, 11-13, 11-14 & 11-15 : 12Vdc
- => Check with multi meter at pin 16 (red)-17, 16-18, 16-19 & 16-20 : 12Vdc



## P31 Group Control Error

### 1. Error Detection Method

- Other indoor unit alarms within the group.

1 Other indoor unit	1-1	Survey the indoor unit that alarms other than "P31" in the indoor unit group and specify the causes of failure.
---------------------	-----	---



## 5-2. PAC System Alarm Codes

### 2. Outdoor

#### Alarms for outdoor units

Alarm Code	Alarm Meaning
E04	Error in Indoor Unit Receiving Signal from the Outdoor Unit
F04	Compressor Discharge Temperature Sensor (TD) Trouble
F06	Inlet Temperature Sensor (C1) in Heat Exchanger Trouble
F08	Outdoor Air Temperature Sensor (TO) Trouble
H01	Primary (input) Overcurrent Detected
H02	PAM Trouble
H03	Primary Current CT Sensor (current sensor) Failure
L18	4-Way Valve Operation Failure
P03	Compressor Discharge Temperature Trouble
P04	High Pressure Trouble
P05	AC Power Supply Trouble
P07	HIC (IPM) Temperature Trouble
P13	Alarm Valve Open
P15	Insufficient Gas Level Detected
P16	Compressor Overcurrent Trouble
P22	Outdoor Unit Fan Motor Trouble
P29	Lack of INV compressor wiring, INV compressor actuation failure (including locked), DCCT failure

## Error Codes Table

Diagnosis display	Abnormality / Protection control	Abnormality Judgment	Protection Operation	Problem	Check location
E04	Indoor/outdoor abnormal communication	After operation for 1 minute	Indoor fan only operation can start by entering into force cooling operation	Indoor/outdoor communication not establish	<ul style="list-style-type: none"> <li>Indoor/outdoor wire terminal</li> <li>Indoor/outdoor PCB</li> <li>Indoor/outdoor connection wire</li> </ul>
F04	Compressor temperature sensor abnormality	Continuous for 5s	—	Compressor temperature sensor open or short circuit	<ul style="list-style-type: none"> <li>Compressor temperature sensor lead wire and connector</li> </ul>
F06	Outdoor heat exchanger temperature sensor 1 abnormality	Continuous for 5s	—	Outdoor heat exchanger temperature sensor 1 open or short circuit	<ul style="list-style-type: none"> <li>Outdoor heat exchanger temperature sensor 1 lead wire and connector</li> </ul>
F08	Outdoor air temperature sensor abnormality	Continuous for 5s	—	Outdoor air temperature sensor open or short circuit	<ul style="list-style-type: none"> <li>Outdoor air temperature sensor lead wire and connector</li> </ul>
H01	Indoor high pressure protection	—	—	Indoor high pressure protection (Heating)	<ul style="list-style-type: none"> <li>Check indoor heat exchanger</li> <li>Air filter dirty</li> <li>Air circulation short circuit</li> </ul>
H02	Power factor correction (PFC) circuit protection	4 times happen within 20 minutes	—	Power factor correction circuit abnormal	<ul style="list-style-type: none"> <li>Outdoor PCB faulty</li> </ul>
H03	Outdoor current transformer (CT) abnormality	—	—	Current transformer faulty or compressor faulty	<ul style="list-style-type: none"> <li>Outdoor PCB faulty or compressor faulty</li> </ul>
L18	4-way valve switching abnormality	4 times happen within 30 minutes	—	4-way valve switching abnormal	<ul style="list-style-type: none"> <li>4-way valve</li> <li>Lead wire and connector</li> </ul>
P03	Compressor overheating protection	4 times happen within 20 minutes	—	Compressor overheat	<ul style="list-style-type: none"> <li>Insufficient refrigerant</li> </ul>
P04	Outdoor cooling high pressure protection	4 times happen within 20 minutes	—	Cooling high pressure protection	<ul style="list-style-type: none"> <li>Check refrigeration system</li> <li>Outdoor air circuit</li> </ul>
P05	Indoor / outdoor misconnection abnormality	—	—	Indoor and outdoor rated voltage different	<ul style="list-style-type: none"> <li>Indoor and outdoor units check</li> </ul>
P07	Power transistor module overheating protection	4 times happen within 30 minutes	—	Power transistor module overheat	<ul style="list-style-type: none"> <li>PCB faulty</li> <li>Outdoor air circuit (fan motor)</li> </ul>
P15	Refrigeration cycle abnormality	2 times happen within 20 minutes	—	Refrigeration cycle abnormal	<ul style="list-style-type: none"> <li>Insufficient refrigerant or valve close</li> </ul>
P16	Outdoor direct current (DC) peak detection	Continuous happen for 7 times	—	Power transistor module current protection	<ul style="list-style-type: none"> <li>Power transistor module faulty or compressor lock</li> </ul>
P22	Outdoor fan motor mechanism lock	2 times happen within 20 minutes	—	Outdoor fan motor lock or feedback abnormal	<ul style="list-style-type: none"> <li>Outdoor fan motor lead wire and connector</li> <li>Fan motor lock or block</li> </ul>
P29	Compressor abnormal revolution	4 times happen within 20 minutes	—	Compressor abnormal revolution	<ul style="list-style-type: none"> <li>Power transistor module faulty or compressor lock</li> </ul>

## E04 Indoor/Outdoor Abnormal Communication

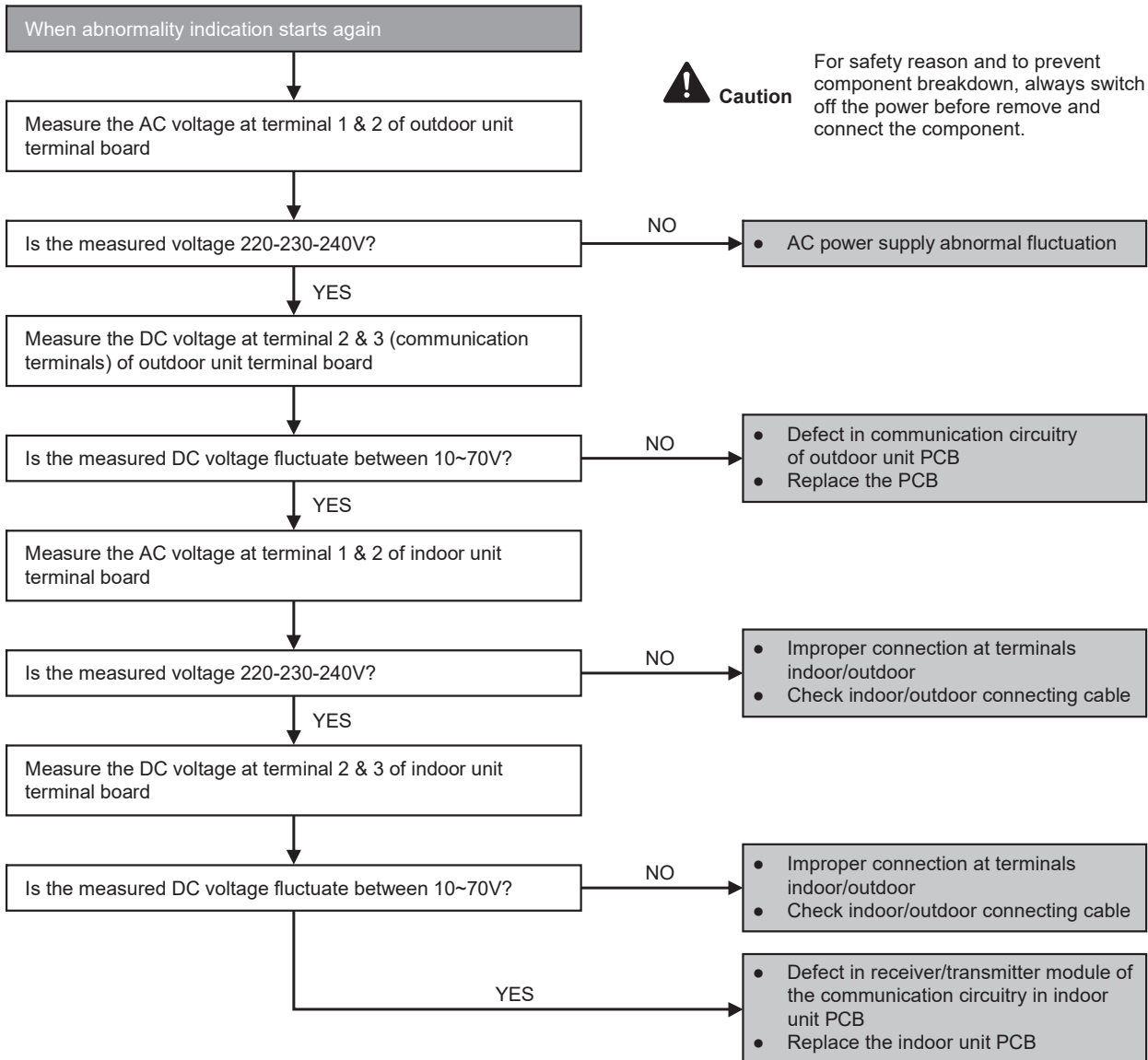
### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the data received from outdoor unit in indoor unit signal transmission is checked whether it is normal.

### Malfunction Caused

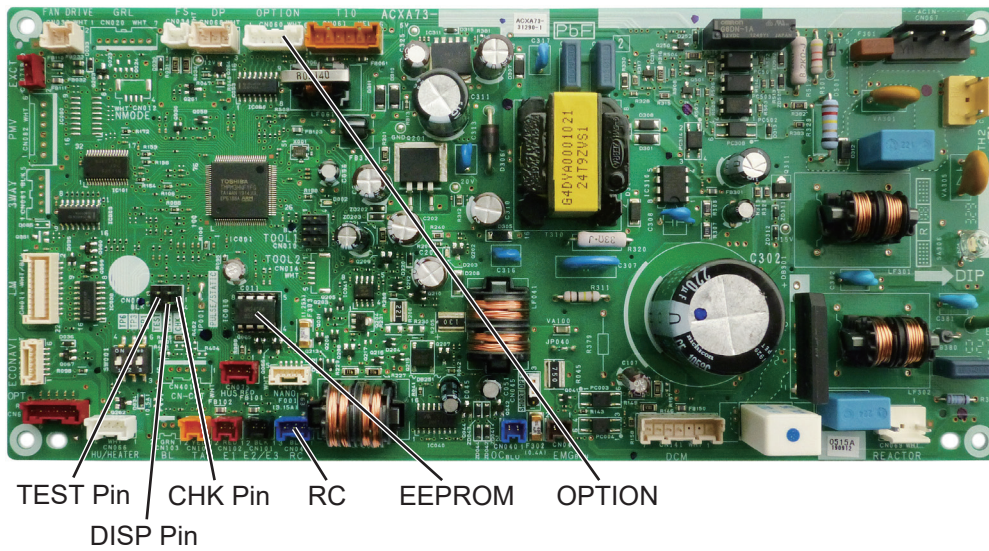
- Faulty indoor unit PCB.
- Faulty outdoor unit PCB.
- Indoor unit-outdoor unit signal transmission error due to wiring error.
- Indoor unit-outdoor unit signal transmission error due to breaking of wire in the connection wires between the indoor and outdoor units.

### Troubleshooting

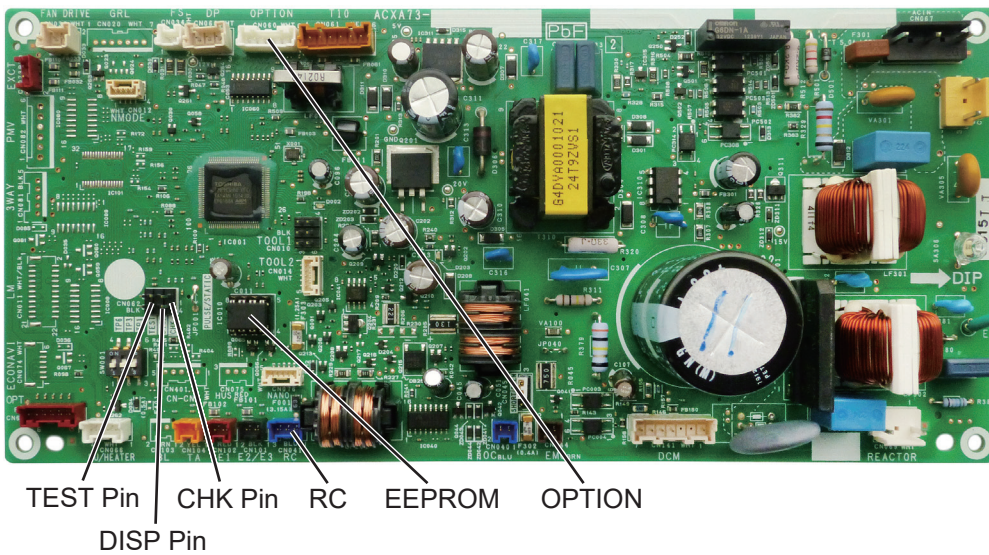


■ Indoor Unit Control PCB

ACXA73-3129\* : 4-Way Cassette Type (Type U3) Indoor Unit Control Board



ACXA73-3440\* : Middle Static Pressure Duct Type (Type F3) Indoor Unit Control Board



## F04 Compressor Temperature Sensor Abnormality

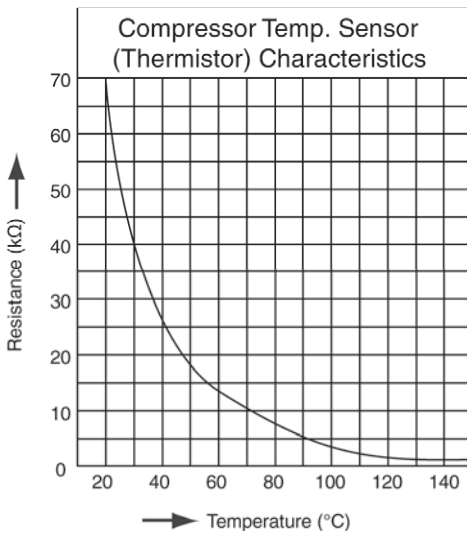
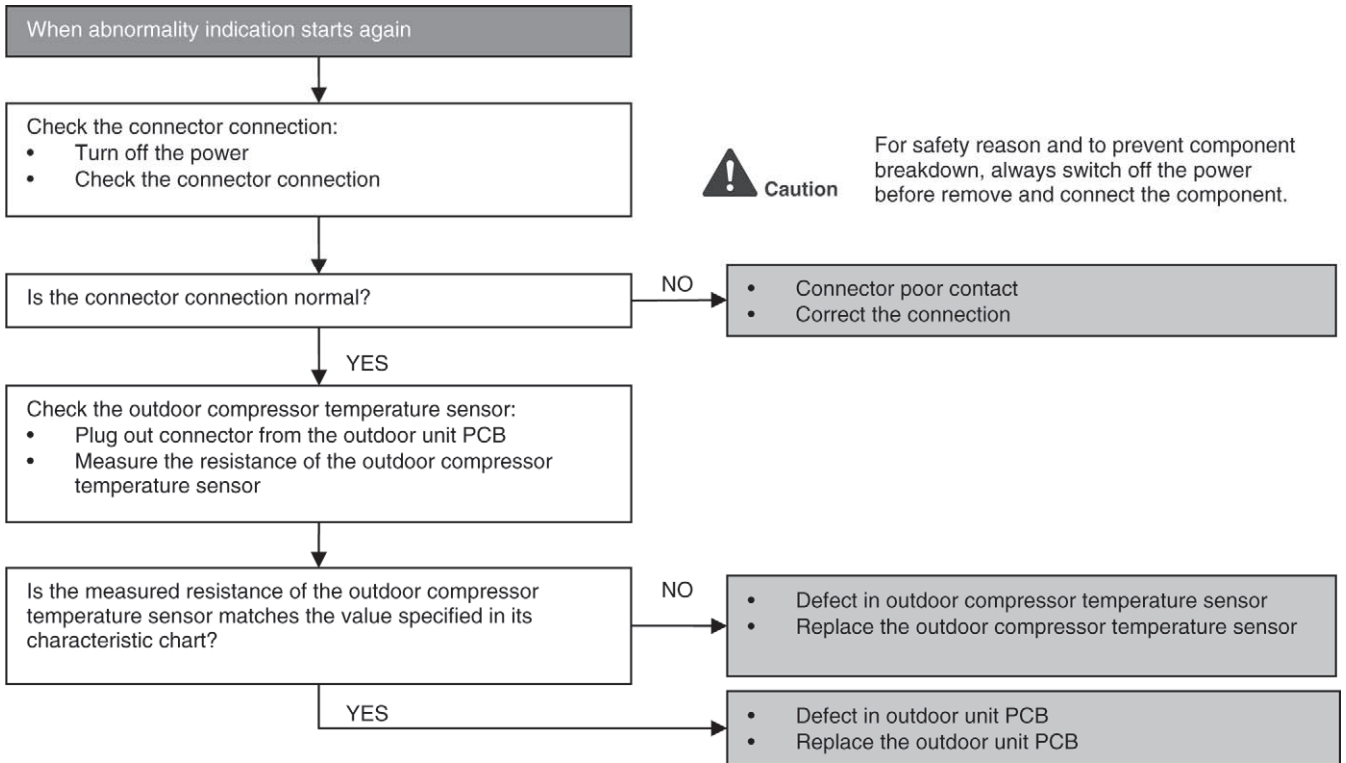
### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor compressor temperature sensor are used to determine sensor errors.

### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

### Troubleshooting



## F06 Outdoor Pipe Temperature Sensor Abnormality

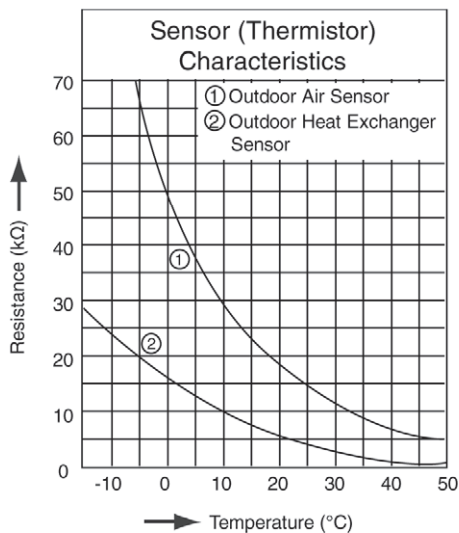
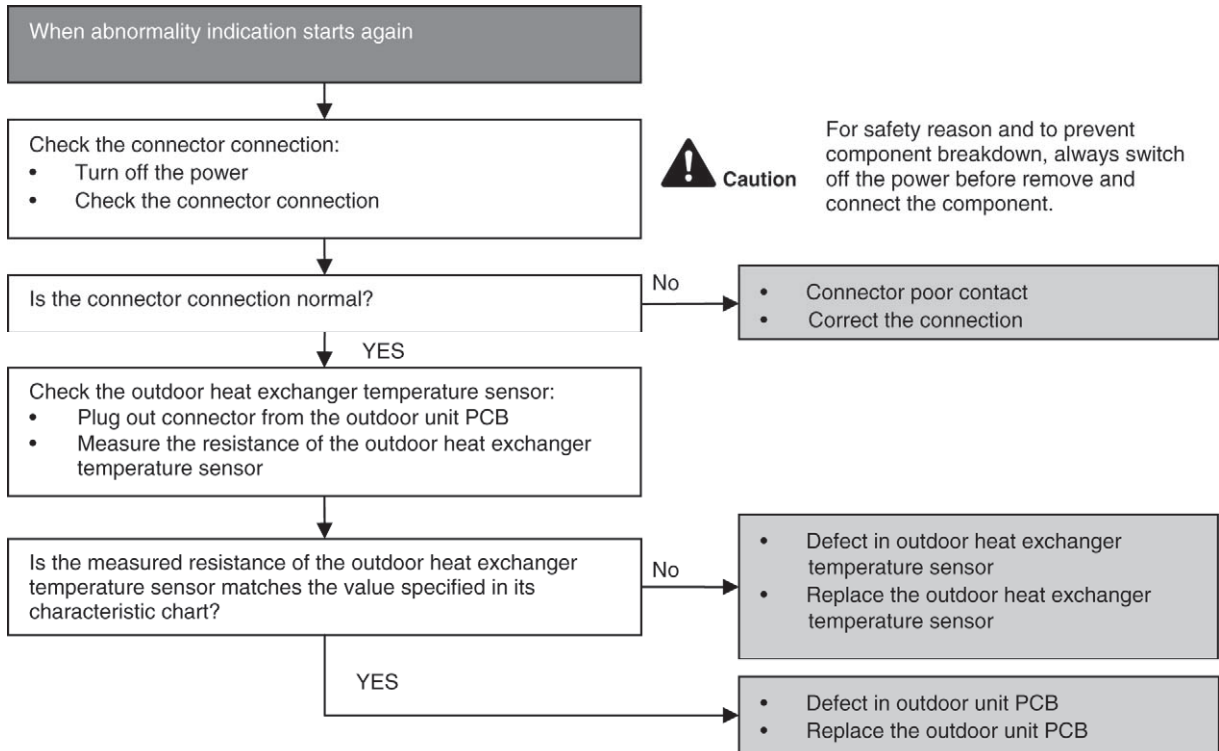
### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor pipe temperature sensor are used to determine sensor errors.

### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

### Troubleshooting



# F08 Outdoor Air Temperature Sensor Abnormality

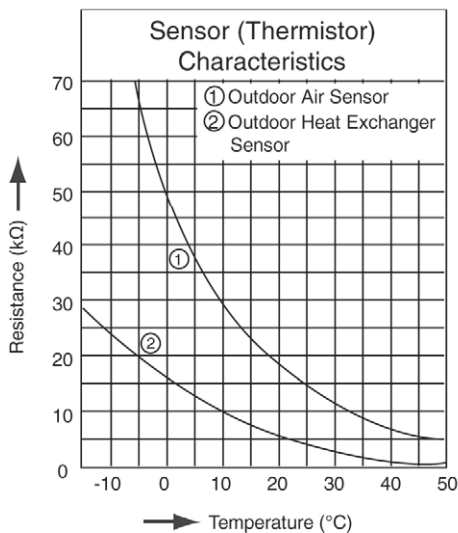
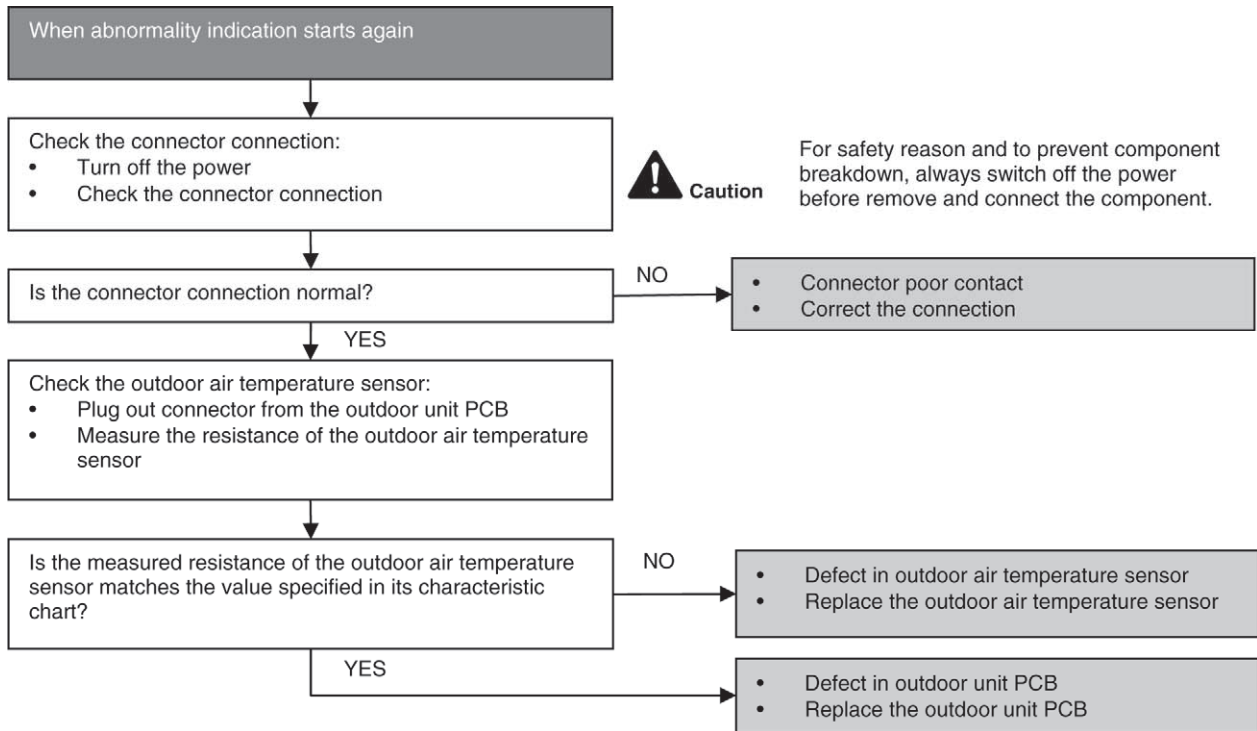
## Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor air temperature sensor are used to determine sensor errors.

## Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

## Troubleshooting



## H01 Error Code Stored in Memory and no alarm is triggered / no TIMER LED flashing

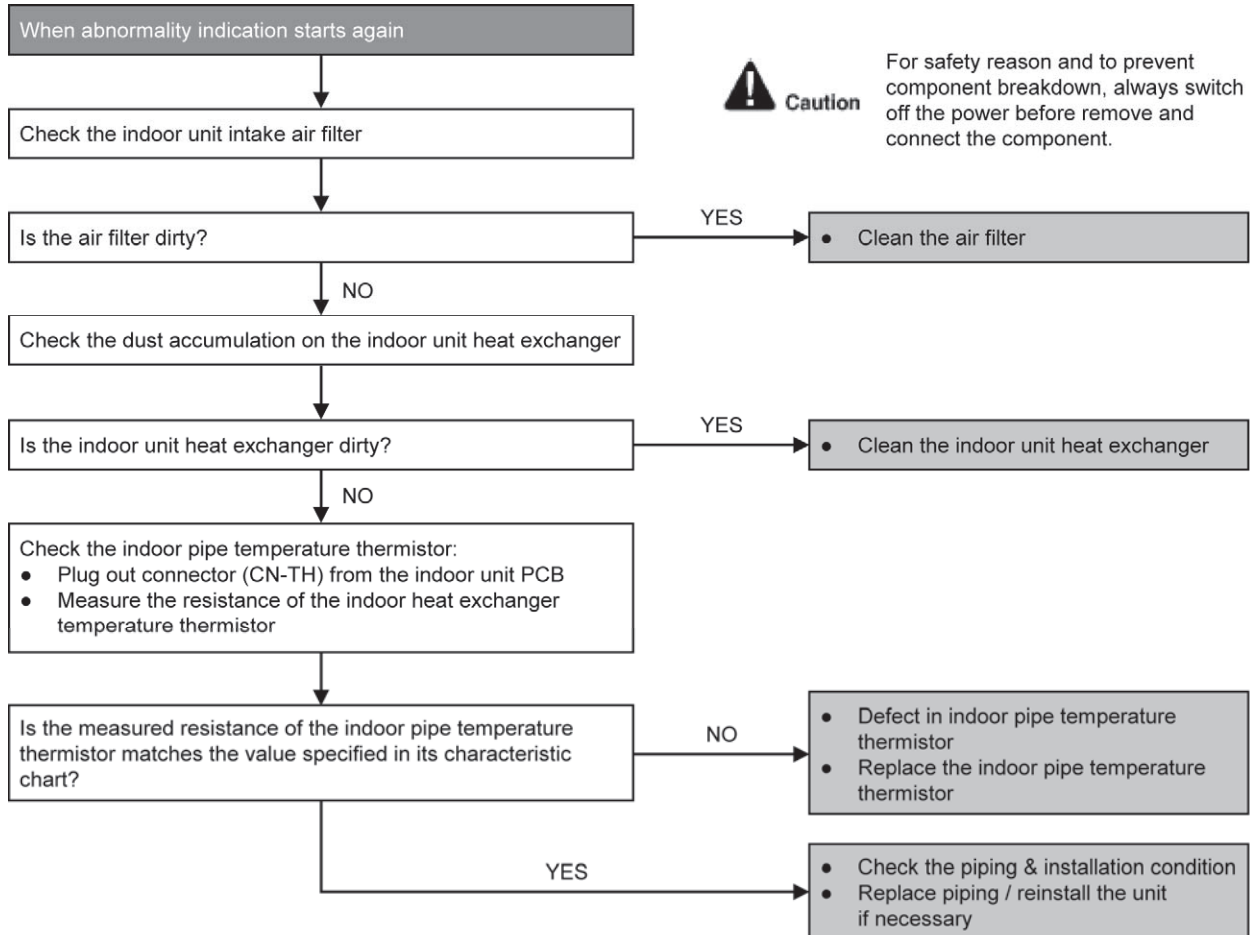
### Malfunction Decision Conditions

- Indoor high pressure is detected when indoor heat exchanger is detecting very high temperature when the unit is operating in heating operation.
- Phenomena: unit is stopping and re-starting very often in heating mode

### Malfunction Caused

- Indoor heat exchanger thermistor
- Clogged air filter or heat exchanger
- Over-bent pipe (liquid side)

### Troubleshooting





## H02 Power Factor Correction Protection

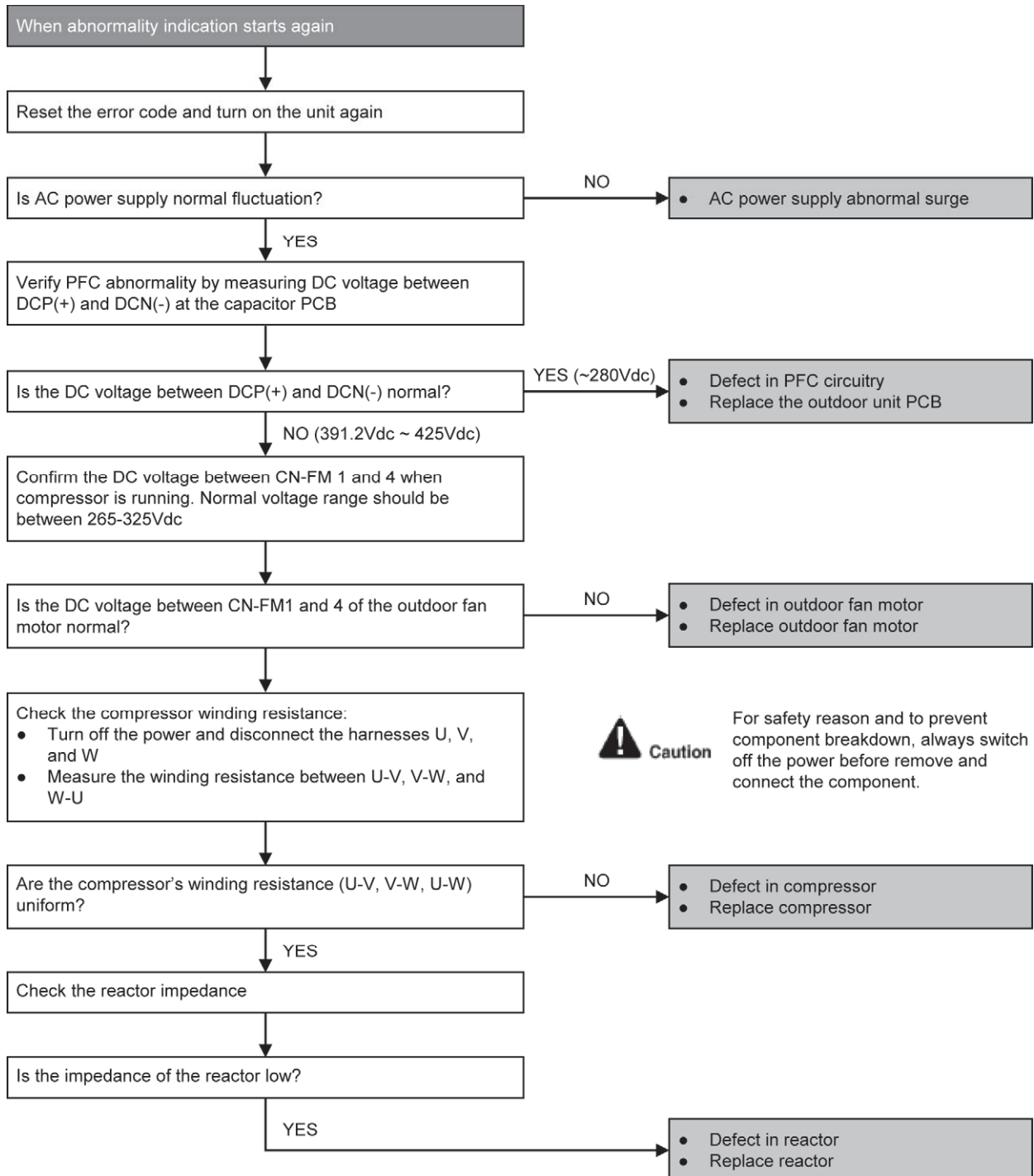
### Malfunction Decision Conditions

- To maintain DC voltage level supply to power transistor.
- To detect high DC voltage level after rectification.

### Malfunction Caused

- During startup and operation of cooling and heating, when Power Factor Correction (PFC) protection circuitry at the outdoor unit main PCB senses abnormal DC voltage level for power transistors.
- When DC voltage detected is LOW, transistor switching will turn ON by controller to push-up the DC level.
- When DC voltage detected is HIGH (391Vdc – 425Vdc), active LOW signal will send by the controller to turn OFF relay RY-C.

### Troubleshooting



## H03 Outdoor Current Transformer

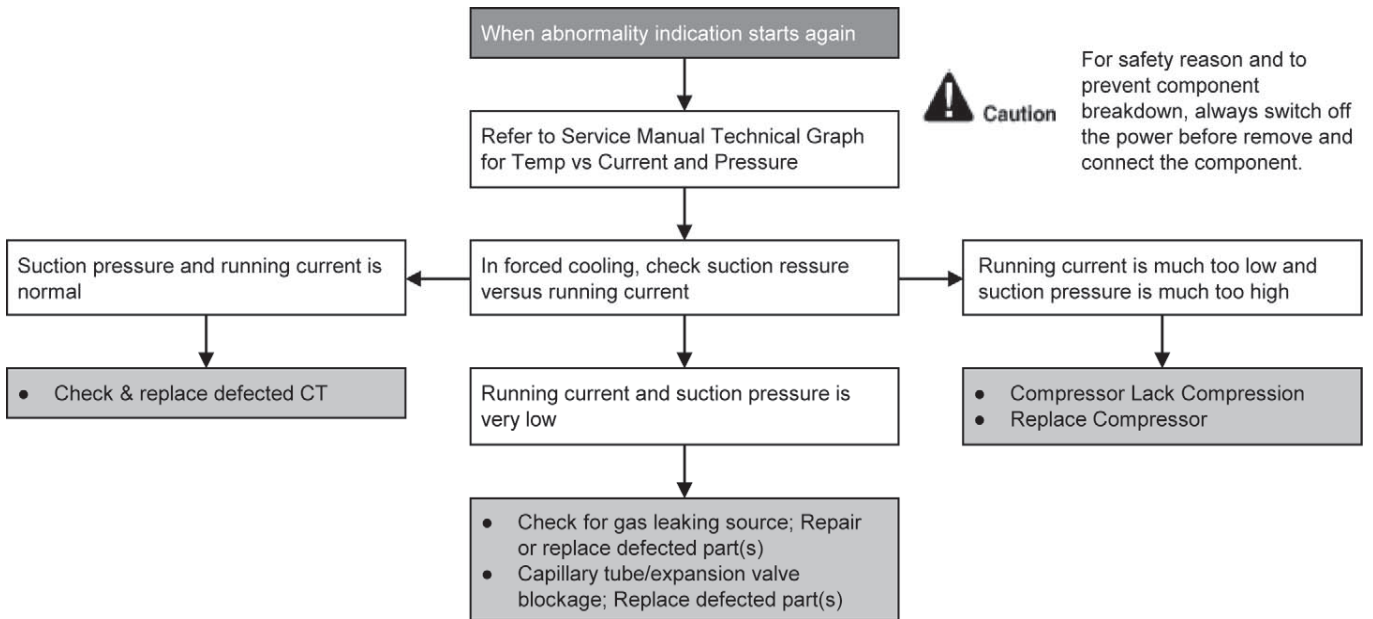
### Malfunction Decision Conditions

- An input current, detected by Current Transformer CT, is below threshold value when the compressor is operating at certain frequency value for 3 minutes.

### Malfunction Caused

- Lack of gas
- Broken CT (current transformer)
- Broken Outdoor PCB

### Troubleshooting



# L18 4-way Valve Switching Failure

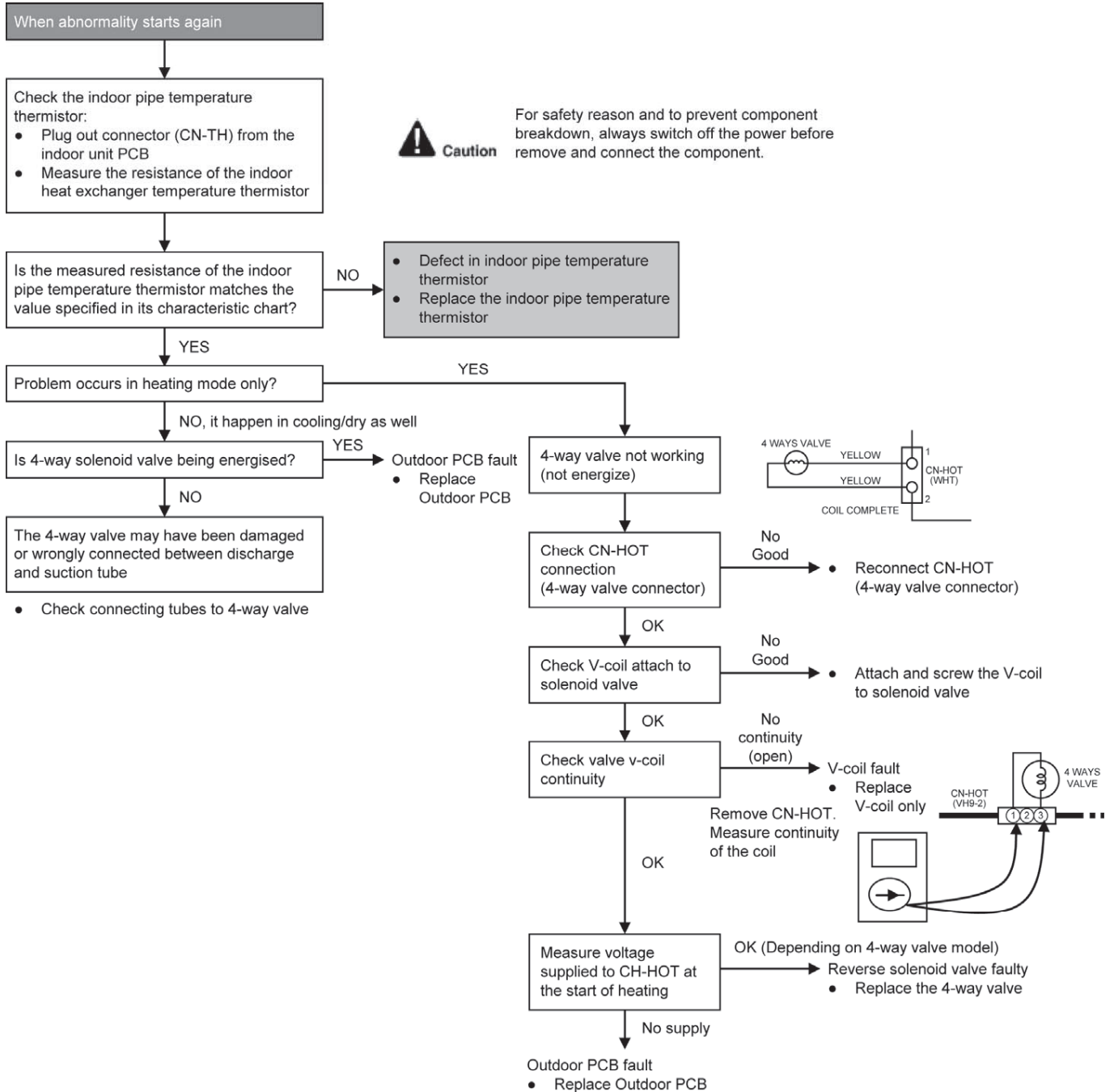
## Malfunction Decision Conditions

- When indoor heat exchanger is cold during heating (except deice) or when indoor heat exchanger is hot during cooling and compressor operating, the 4-way valve is detected as malfunction.

## Malfunction Caused

- Indoor heat exchanger (pipe) thermistor
- 4-way valve malfunction

## Troubleshooting



\* Check gas side pipe – for hot gas flow in cooling mode

## P03 Compressor Overheating

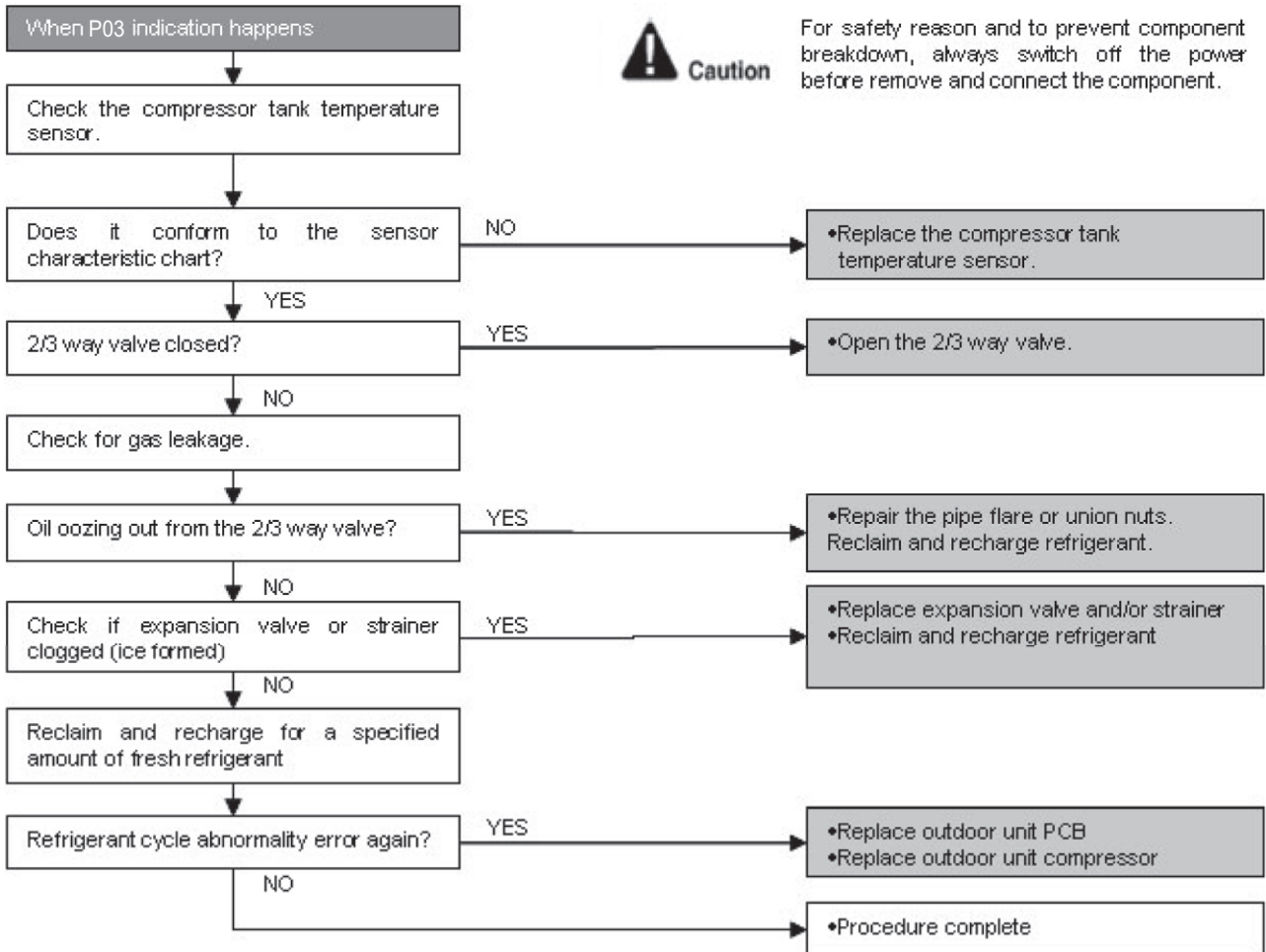
### Malfunction Decision Conditions

- During operation of cooling and heating, when compressor tank temperature data (103°C) is detected by the compressor tank temperature sensor.

### Malfunction Caused

- Faulty compressor tank temperature sensor
- 2/3 way valve closed
- Refrigerant shortage (refrigerant leakage)
- Faulty outdoor unit PCB
- Faulty compressor

### Troubleshooting



## P04 Outdoor High Pressure Protection: Cooling or Soft Dry

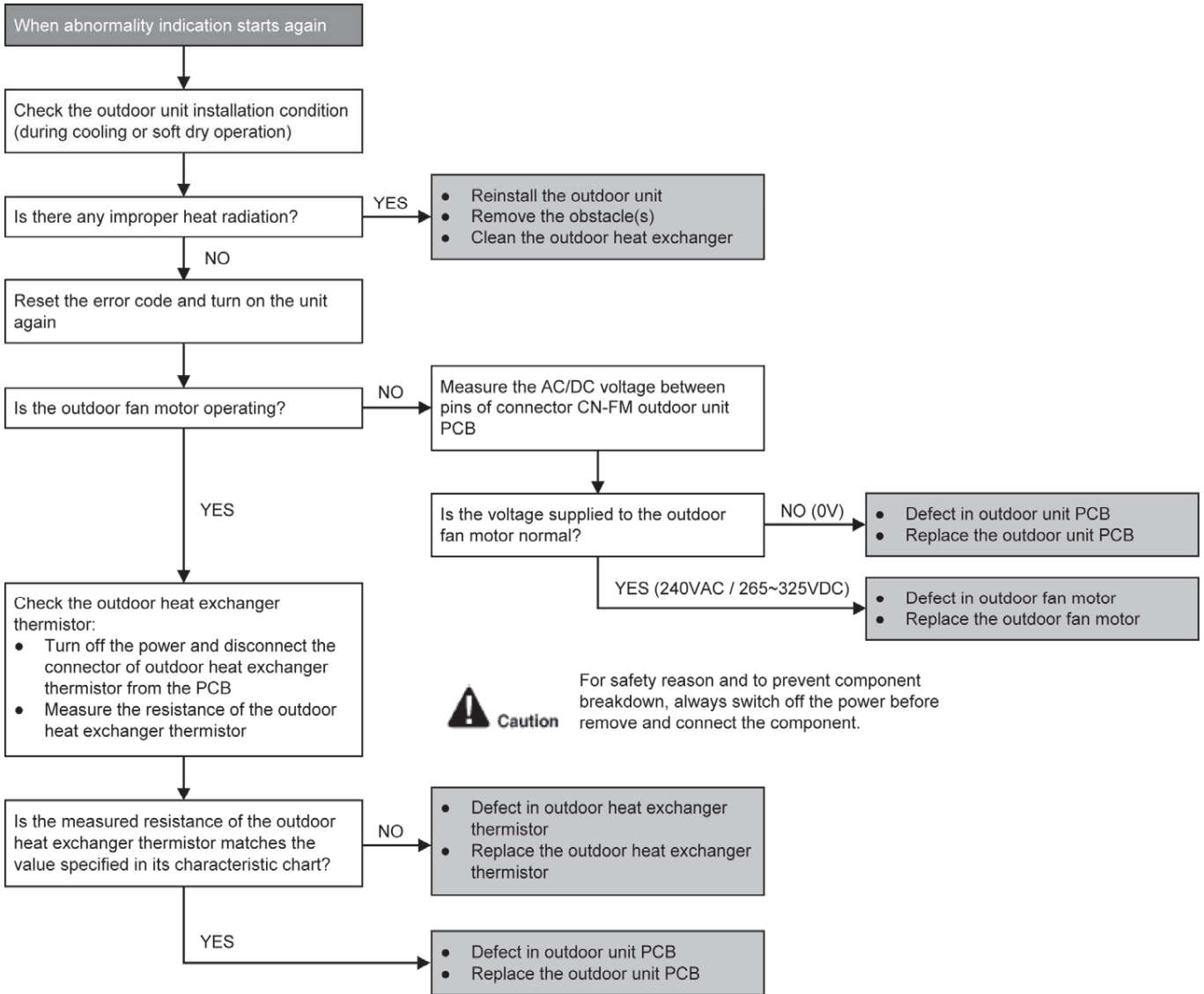
### Malfunction Decision Conditions

- During operation of cooling or soft dry, when outdoor unit heat exchanger high temperature data is detected by the outdoor unit heat exchanger thermistor.

### Malfunction Caused

- Outdoor heat exchanger temperature rise due to short-circuit of hot discharge air flow.
- Outdoor heat exchanger temperature rise due to defective of outdoor fan motor.
- Outdoor heat exchange temperature rise due to defective outdoor heat exchanger thermistor.
- Outdoor heat exchanger temperature rise due to defective of outdoor unit PCB.

### Troubleshooting



## P05 Unspecified Voltage between Indoor and Outdoor

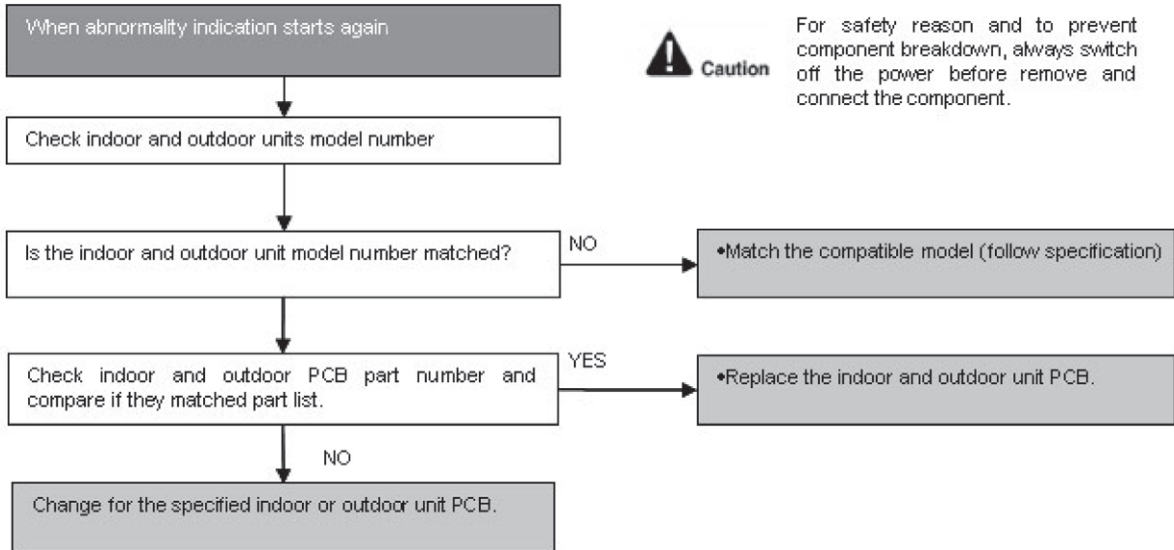
### Malfunction Decision Conditions

- The supply power is detected for its requirement by the indoor/outdoor transmission.

### Malfunction Caused

- Wrong models interconnected.
- Wrong indoor unit and outdoor unit PCBs used.
- Indoor unit or outdoor unit PCB defective.

### Troubleshooting



## P15 Refrigeration Cycle Abnormality

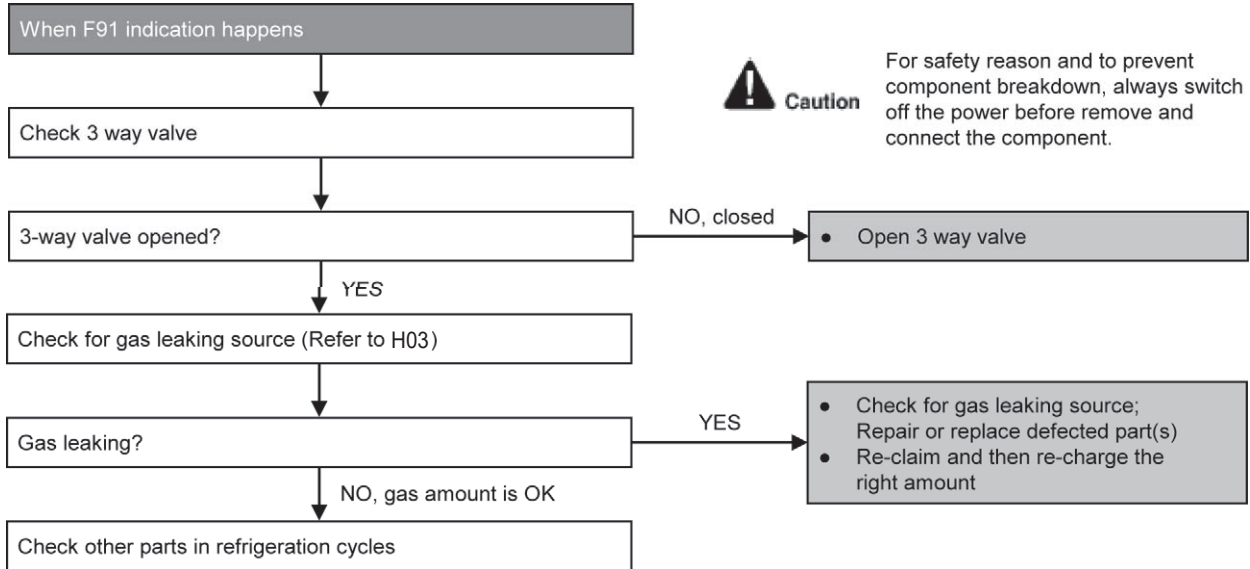
### Malfunction Decision Conditions

- The input current is low while the compressor is running at higher than the setting frequency.

### Malfunction Caused

- Lack of gas.
- 3-way valve close.

### Troubleshooting



## P16 DC Peak Detection

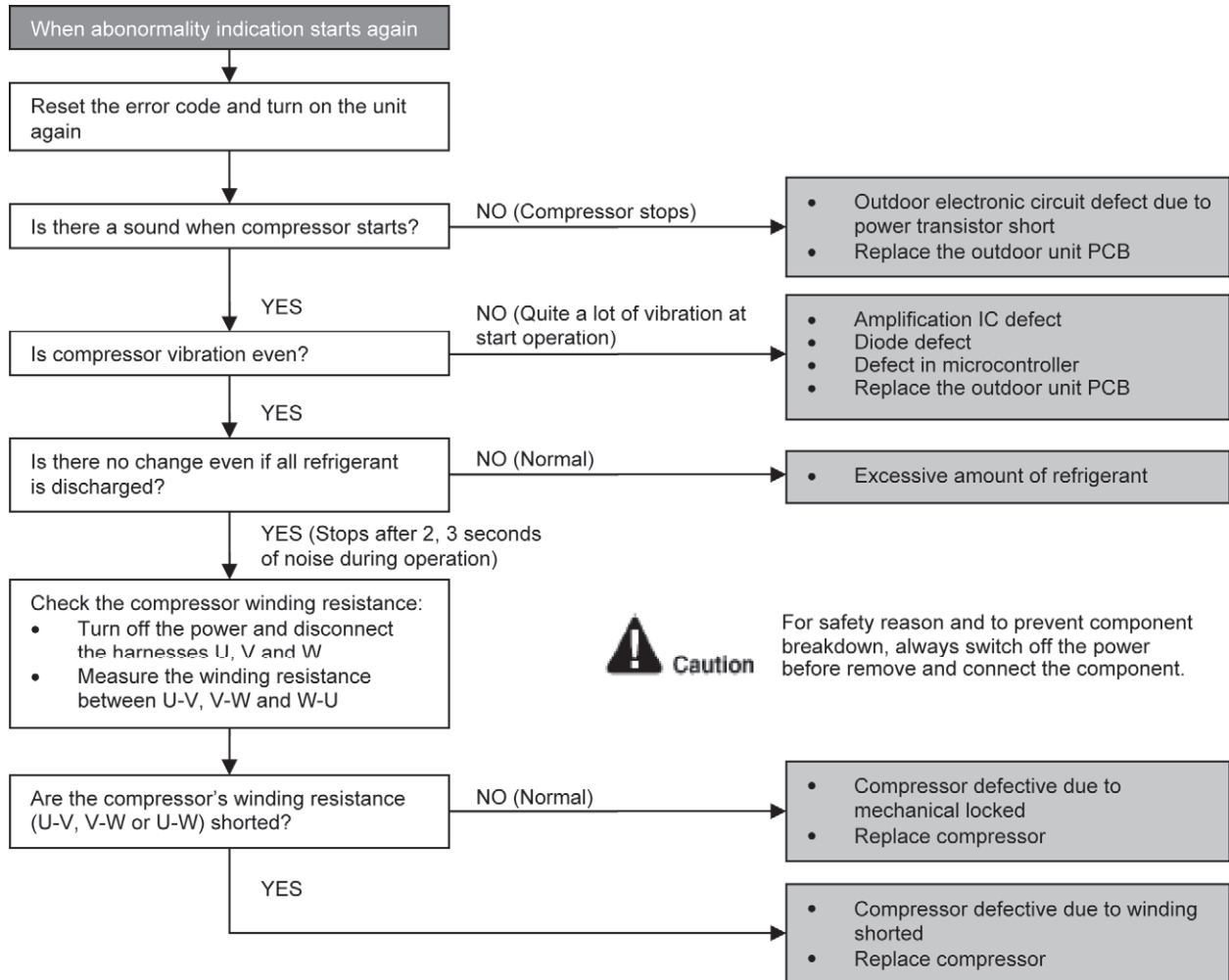
### Malfunction Decision Conditions

During startup and operation of cooling and heating, when inverter DC peak data is received by the outdoor internal DC Peak sensing circuitry.

### Malfunction Caused

- DC current peak due to compressor failure.
- DC current peak due to defective power transistor(s).
- DC current peak due to defective outdoor unit PCB.
- DC current peak due to short circuit.

### Troubleshooting





# P22 Outdoor Fan Motor – DC Motor Mechanism Locked

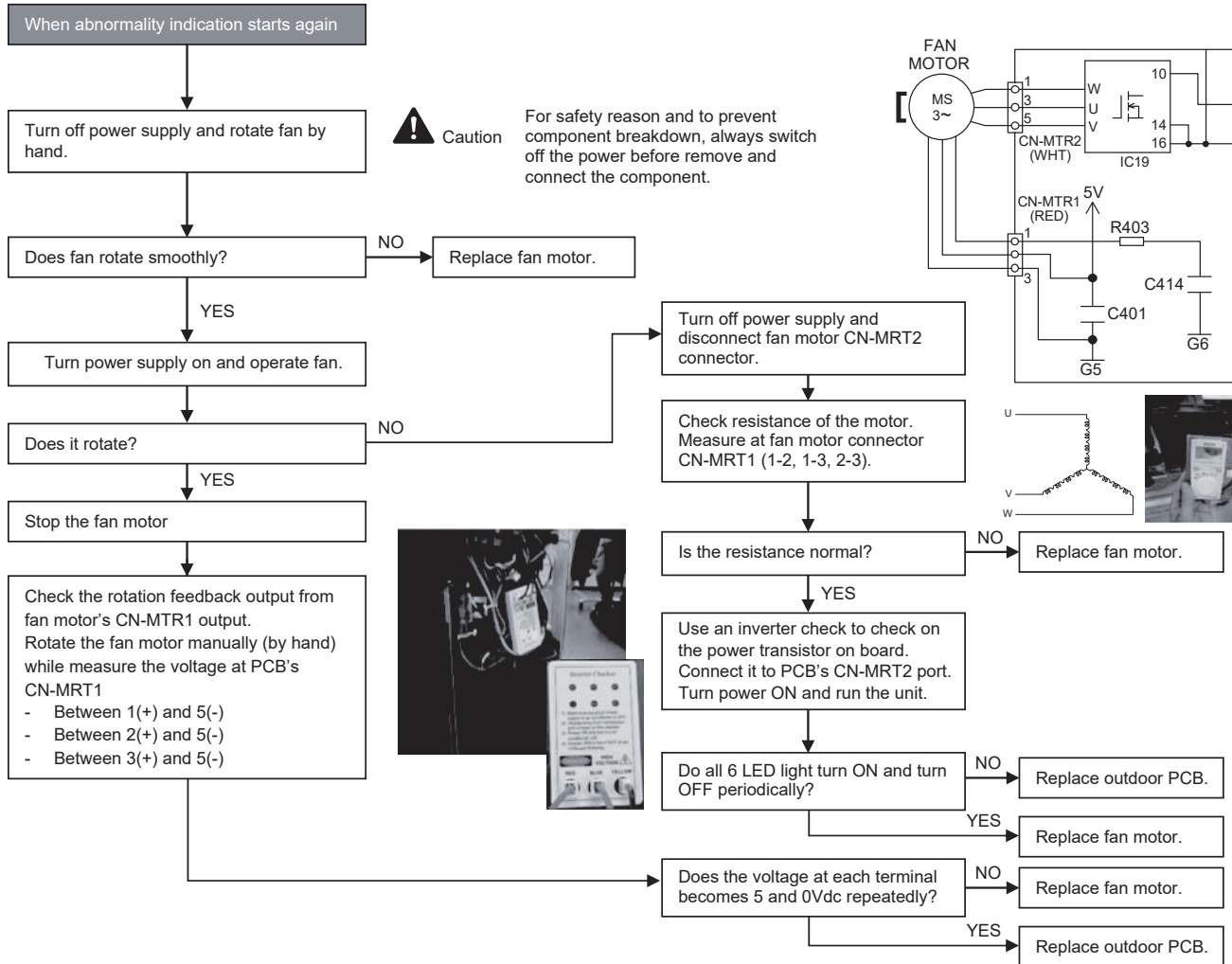
## Malfunction Decision Conditions

- The rotation speed detected by the Hall IC during fan motor operation is used to determine abnormal fan motor.

## Malfunction Caused

- Operation stops due to short circuit inside the fan motor winding.
- Operation stops due to breaking of wire inside the fan motor.
- Operation stops due to breaking of fan motor lead wires.
- Operation stops due to Hall IC malfunction.
- Operation error due to faulty outdoor unit PCB.

## Troubleshooting



## P29 Compressor Rotation Failure

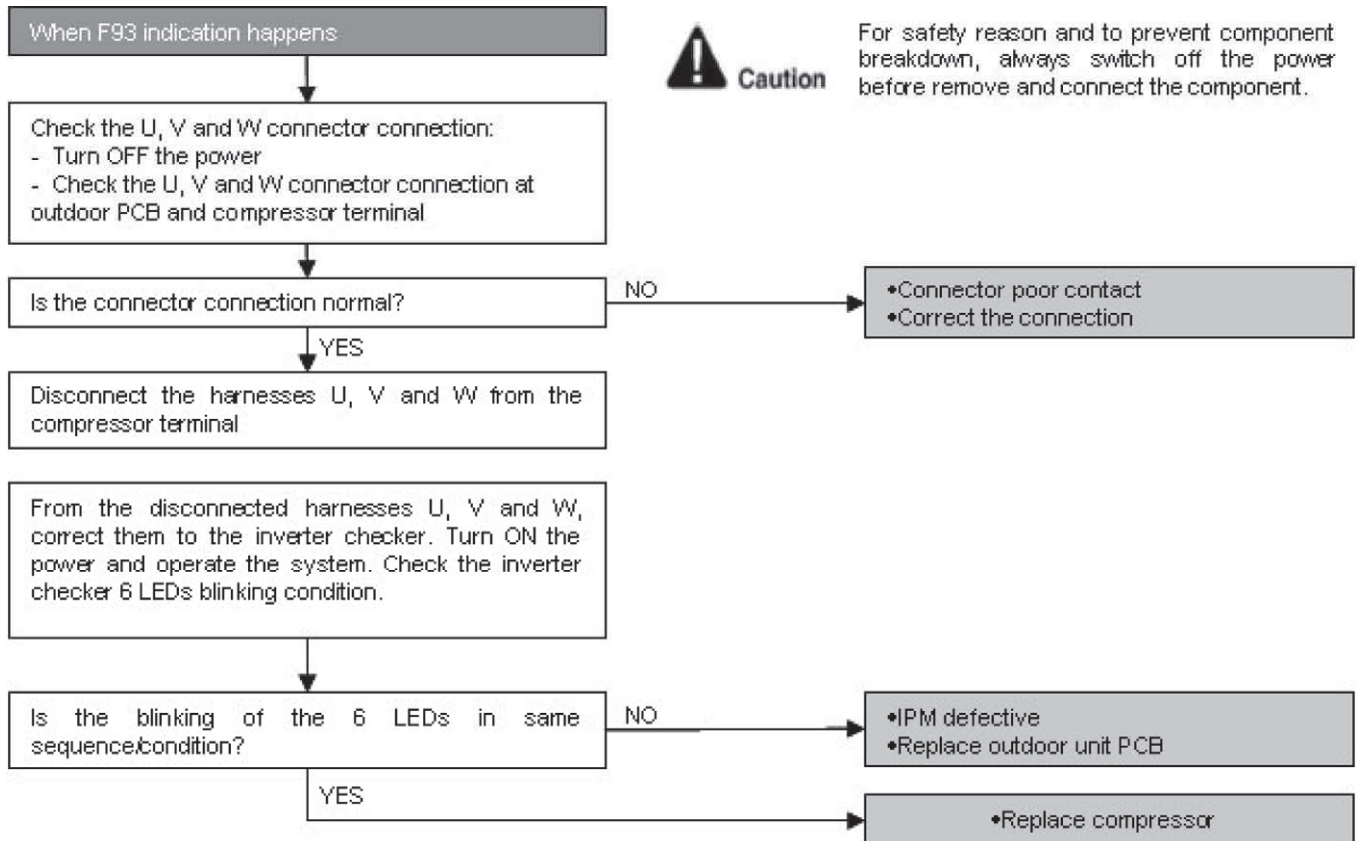
### Malfunction Decision Conditions

- A compressor rotation failure is detected by checking the compressor running condition through the position detection circuit.

### Malfunction Caused

- Compressor terminal disconnect
- Faulty Outdoor PCB
- Faulty compressor

### Troubleshooting



### 5-3. Inspection of Parts (Outdoor Unit)

(1) Electronic control valve (MOV1)

- STM/STM1: Measure the voltage between plug pin 5 and pins 1 through 4 at the CN-STM/CN-STM1 connector (white) on the outdoor unit control PCB. (Because of the pulse output, a simplified measurement method is used. Set the tester to the 12 V range; if the value displayed is approximately 4 V, then the voltage is normal.) If the voltage is normal, measure the resistance between connector pin 5 and pins 1 through 4. Resistance between pin 5 and pins 1 through 4 should be approximately 46 Ω for all. (If the result is 0 Ω or, ∞ then replace the coil.)

(2) Outdoor Unit Fan Motor

Model No.	Part No. (Panasonic)	Part No.
U-36PZ3E5	L6CAYYYL0064	NFD-52FV-D840-16
U-50PZ3E5	L6CAYYYL0064	NFD-52FV-D840-16
U-60PZ3E5	L6CAYYYL0076	NFD-62FV-D840-6
U-71PZ3E5	L6CAYYYL0076	NFD-62FV-D840-6

(3) Coil Resistance of Compressor

Model No.	Part No. (Panasonic)	Part No.	Inverter compressor (at 20°C)		
			U - V	V - W	U - W
U-36PZ3E5	ACXB09-03470	9RS102XFA21	1.211	1.211	1.211
U-50PZ3E5	ACXB09-04960	9RD132XAB21	1.897	1.882	1.907
U-60PZ3E5	ACXB09-04940	9RD132XAA21	1.897	1.882	1.907
U-71PZ3E5	ACXB09-04950	9KD240XBA21	0.720	0.708	0.726

## 5-4. How to Replace Fan Motor

### Type F3

#### Removing Fan Motor

1. Turn off the power supply.

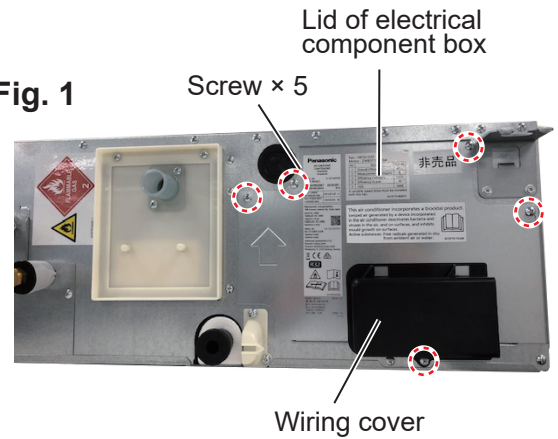
#### WARNING



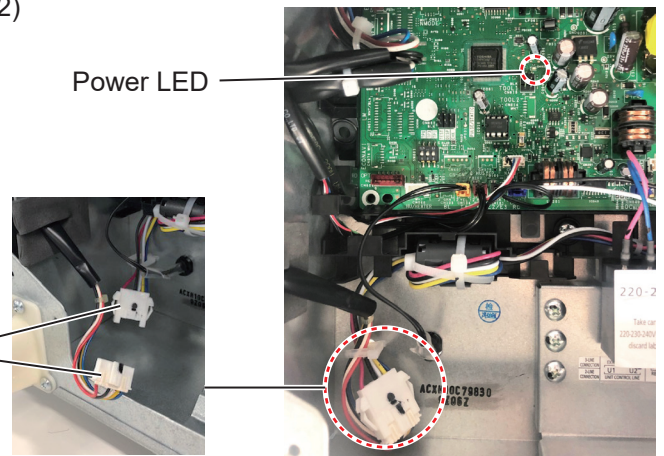
**ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.**

2. Remove the Lid of electrical component box and the wiring cover. (Screws × 5 locations: Fig. 1)  
Make sure the PC board should not be electrified.  
Power supply LED should be lit off on PC board. (Fig. 2)
3. Disconnect the interconnector in the middle of the wiring to the fan motor. (Fig. 2)

**Fig. 1**

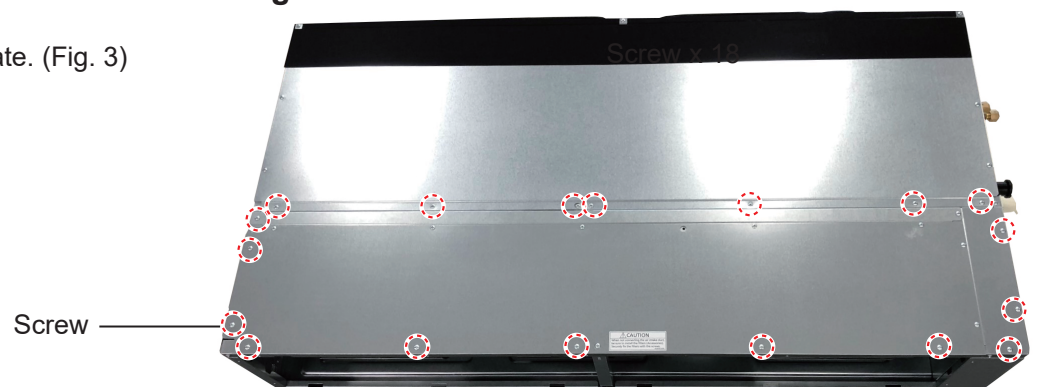


**Fig. 2**



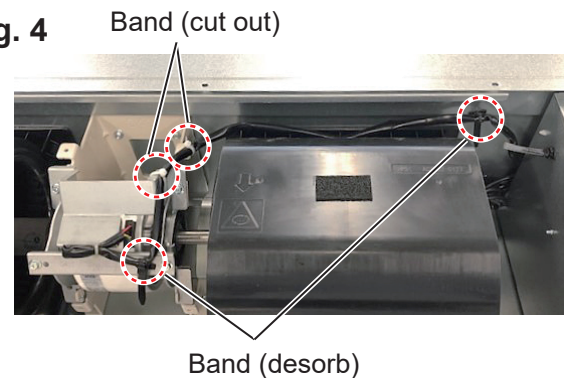
**Fig. 3**

4. Remove the bottom plate. (Fig. 3)



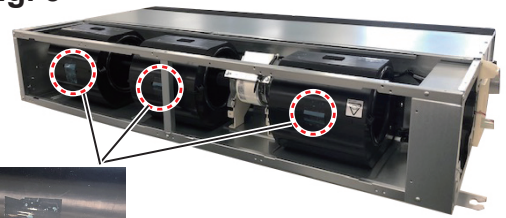
**Fig. 4**

5. Disconnect the wires. (Fig. 4)



- Peel off the tape on the fan casing and remove two screws. (Fig. 6, Fig. 7, Fig. 8)  
Disconnect four (4) clutches (Fig. 7, Fig. 8) fixing the lower side of the fan casing.  
Then pull off the fan casing.

**Fig. 5**

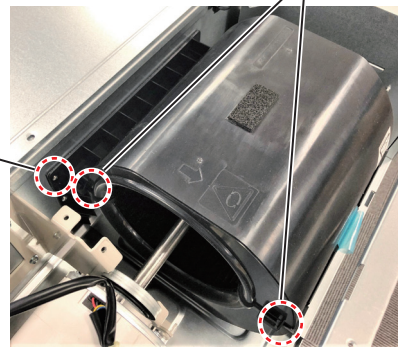


**Fig. 6**



Peel off the tape

**Fig. 7**

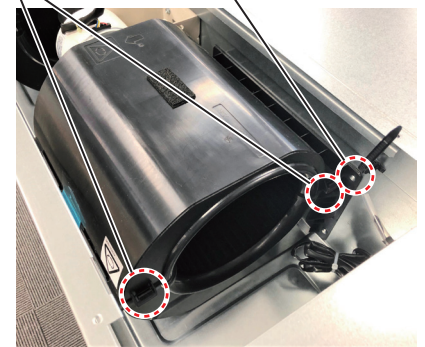


Screw

Disconnect the clutches

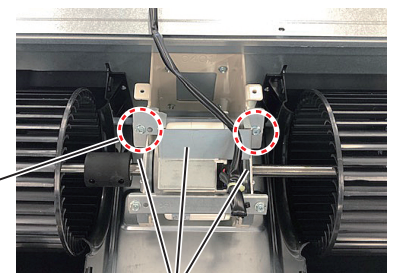
Screw

**Fig. 8**



- Remove the screws (M5 × 2 locations: Fig. 9) fixing the fan motor. It is recommended that a nutdriver (8mm) be used.
- Remove the bracket and then remove the fan and fan motor (Fig. 9).
- Loosen the fixed screw with a hexagon wrench (3mm, over 100mm in length) and remove the fan (Fig. 10).

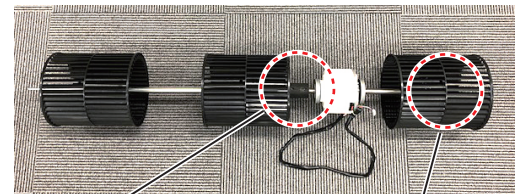
**Fig. 9**



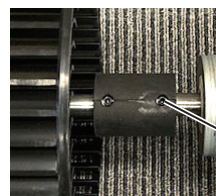
Screw × 2

**Fig. 10**

Bracket



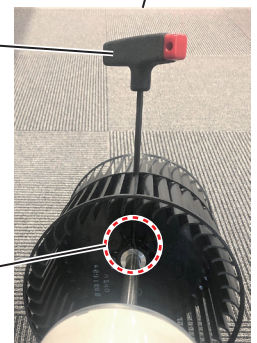
**Fig. 11**



Hexagon wrench

Fixed screw

Fixed screw



**Fig. 12**

### Installing Fan Motor

- For installation, reverse the procedure above.
- Fine tune so that the fan can be positioned in the center of the fan casing.

– MEMO –

## **6. OUTDOOR UNIT MAINTENANCE REMOTE CONTROLLER**

\* Refer to the Service Manual of the remote controller (CZ-RTC6 Series)

– MEMO –



## 7. REMOTE CONTROLLER FUNCTIONS SECTION










7-1.	Simple Settings Function .....	7-1
7-2.	List of Simple Setting Items .....	7-3
7-3.	Detailed Settings Function .....	7-4
7-4.	List of Detailed Setting Items .....	7-6
7-5.	Simple Setting Items .....	7-10
7-6.	Detailed Setting Items .....	7-12
7-7.	Remote Controller Servicing Functions.....	7-16
7-8.	Test Run Function .....	7-18

## 7-1. Simple Settings Function

- This allows the filter lifetime, operating mode priority change, central control address, and other settings to be made for an individual or group-control indoor unit to which the remote controller used for simple settings is connected.

When simple settings mode is engaged, operation stops at the individual or group-control indoor unit to which the remote controller for simple settings is connected.

### <Procedure of CZ-RTC4>

- Press and hold the  and  buttons simultaneously for 4 seconds or longer.
- "SETTING", unit No. "1-1" (or "ALL" in the case of group control), item code "01," and settings data "00XX" are displayed blinking on the remote controller LCD display (Fig. 7-1). At this time, the indoor unit fan (or all indoor unit fans in the case of group control) begins operating.
- If group control is in effect, press the  button and select the address (unit No.) of the indoor unit to set. At this time, the fan at the indoor unit begins operating.  
\*If unit No. "ALL" is displayed, the same setting will be made for all indoor units.
- Press the temperature setting  /  buttons to select the item code to change.
- Press the timer time  /  buttons to select the desired setting data.  
\*For item codes and setting data, see the following page.
- Press the  button. (The display stops blinking and remains lit, and setting is completed.)
- Press the  button to return to normal remote controller display.

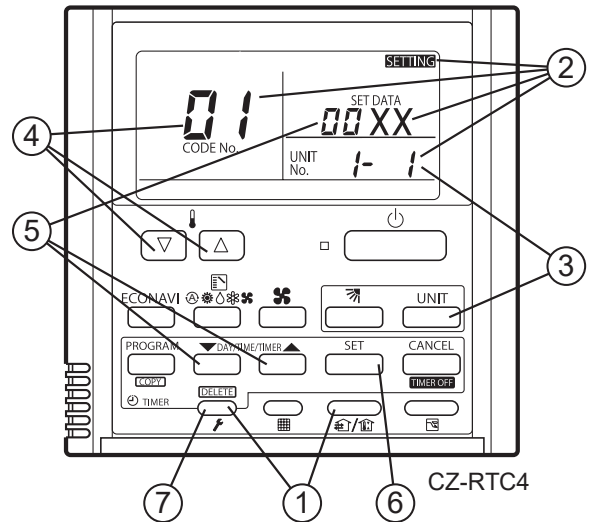
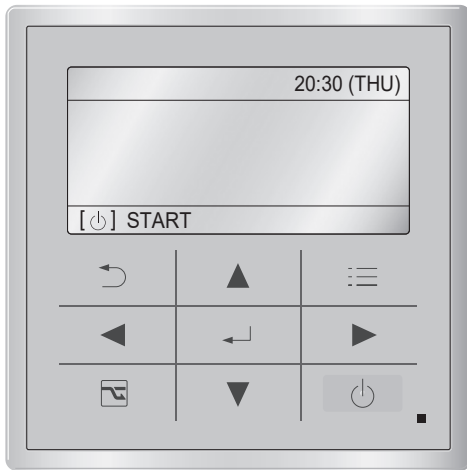


Fig. 7-1

## <Procedure of CZ-RTC5B>



CZ-RTC5B

Fig. 7-2

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

Maintenance func	20:30 (THU)
1. Outdoor unit error data	
2. Service contact	
3. RC setting mode	
4. Test run	
◆ Sel. ◀ ▶ Page [↵] Confirm	

- ② Press the or button to see each menu. If you wish to see the next screen instantly, press the or button. Select “7. Simple settings” on the LCD display and press the button.

Maintenance func	20:30 (THU)
5. Sensor info.	
6. Servicing check	
7. Simple settings	
8. Detailed settings	
◆ Sel. ◀ ▶ Page [↵] Confirm	

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

Select the “Unit no.” by pressing the or button for changes.

Simple settings	20:30 (THU)	
Unit no.	Code no.	Set data
3-1	01	0001
◆ Sel. ▶ Next		

- ③ Select the “Code no.” by pressing the or button. Change the “Code no.” by pressing the or button.

Simple settings	20:30 (THU)	
Unit no.	Code no.	Set data
3-1	01	0001
◆ Sel. ▶ Next		

- ④ Select the “Set data” by pressing the or button. Select one of the “Set data” by pressing the or button. Then press the button.

Simple settings	20:30 (THU)	
Unit no.	Code no.	Set data
3-1	01	0001
◆ Sel. [↵] Confirm		

- ⑤ Select the “Unit no.” by pressing the or button and press the button. The “Exit simple settings and restart?” (Simple setting-end) screen appears on the LCD display. Select “YES” and press the button.

Simple settings	20:30 (THU)	
Exit simple settings and restart?		
YES	▶	NO
◆ Sel. ▶ Next		

## 7-2. List of Simple Setting Items

Item code	Item	Setting data		
		No.	Description	
01	Filter sign ON time (filter life time)	0000	Not displayed	
		0001	150 hours	
		0002	2,500 hours	
		0003	5,000 hours	
		0004	10,000 hours	
		0005	Use the filter clogging sensor.	
02	Degree of filter fouling	0000	Standard (setting at time of shipping)	
		0001	Highly fouled (Filter sign ON time is reduced to one-half the set time.)	
03	Central control address	0001	Central control address 1	
		0002	Central control address 2	
		0003	Central control address 3	
		}	}	
		0064	Central control address 64	
		0099	No central control address set (setting at time of shipping)	
04	Operating mode priority change	0000	Normal ( setting at time of shipping)	
		0001	Priority	
05	Fan speed when heating thermostat is OFF		Compressor ON	Compressor OFF
		0000	Lo 1 min., LL 3 min.	LL
		0001	Lo	LL
		0002	LL	LL
		0004	Lo 1 min., LL 3 min. Lo	Lo
		0005	Lo	Lo
		0006	LL	Lo
06	Heating intake temperature shift	0000	No shift	
		0001	Shifts intake temperature 1 °C down.	
		0002	Shifts intake temperature 2 °C down.	
		0003	Shifts intake temperature 3 °C down.	
		0004	Shifts intake temperature 4 °C down.	
		0005	Shifts intake temperature 5 °C down.	
		0006	Shifts intake temperature 6 °C down.	
07	Electric heater installation	0000	No heater	
		0001	Heater installed	
08	Humidifying when heater thermostat is OFF	0000	No (setting at time of shipping)	
		0001	Yes	
0d	Permit/prohibit automatic heating/cooling	0000	Permit	
		0001	Prohibit	
0F	Cool-only	0000	Normal	
		0001	Cool only (Set "1" for item code OD.)	

### NOTE









- In order to avoid water leakage and damage to the fan, do not set for humidifying when the thermostat is OFF unless a vaporizing humidifier is used.
- Consider the device purpose and type when changing the settings. Incorrect settings may result in malfunction.
- Do not change any setting data that does not appear in this list.

### 7-3. Detailed Settings Function



- This allows the system address, indoor unit address, and other settings to be made for the individual or group-control indoor unit to which the remote controller used for detailed settings is connected.

When detailed settings mode is engaged, operation stops at the individual or group-control indoor unit where the remote controller used for detailed settings is connected. Simple settings items can also be set at this time.

#### <Procedure of CZ-RTC4>

- Press and hold the ,  and  buttons simultaneously for 4 seconds or longer.
- "SETTING", unit No. "1-1" (or "ALL" in the case of group control), item code "10," and settings data "00XX" are displayed blinking on the remote controller LCD display (Fig. 7-3). At this time, the indoor unit fan (or all indoor unit fans in the case of group control) begins operating.
- If group control is in effect, press the  button and select the address (unit No.) of the indoor unit to set. At this time, the fan at the indoor unit begins operating.
- Press the temperature setting  /  buttons to select the item code to change.
- Press the timer time  /  buttons to select the desired setting data.

\*For item codes and setting data, see the following page.

- Press the  button. (The display stops blinking and remains lit, and setting is completed.)
- Press the  button to return to normal remote controller display.

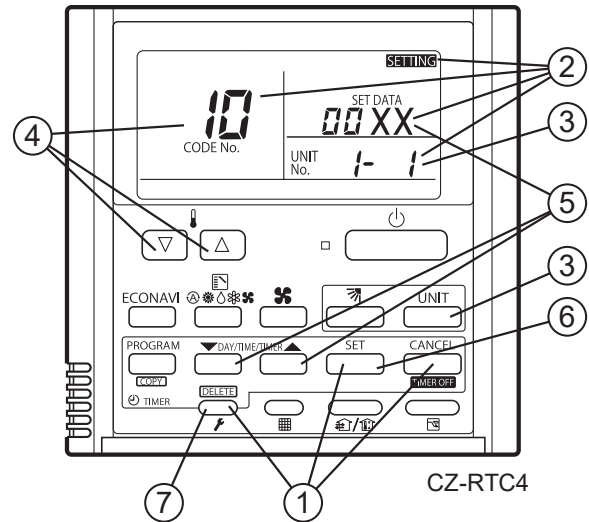
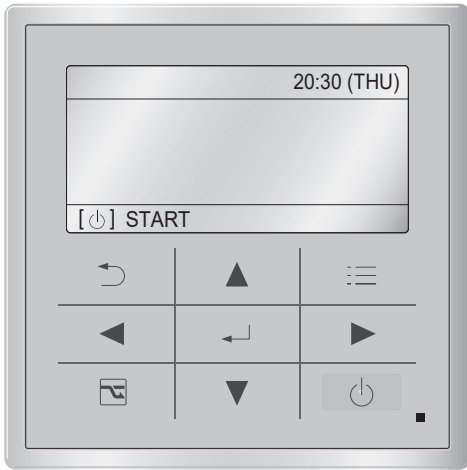


Fig. 7-3

<Procedure of CZ-RTC5B>



CZ-RTC5B

Fig. 7-4

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

Maintenance func	20:30 (THU)
1. Outdoor unit error data	
2. Service contact	
3. RC setting mode	
4. Test run	
◆ Sel. ◀ ▶ Page [↵] Confirm	

- 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.

Maintenance func	20:30 (THU)
5. Sensor info.	
6. Servicing check	
7. Simple settings	
8. Detailed settings	
◆ Sel. ◀ ▶ Page [↵] Confirm	

The “Detailed settings” screen appears on the LCD display. Select the “Unit no.” by pressing the or button for changes.

Detailed settings		20:30 (THU)
Unit no.	Code no.	Set data
3-1	10	0001
◆ Sel. ▶ Next		

- ③ Select the “Code no.” by pressing the or button. Change the “Code no.” by pressing the or button (or keeping it pressed).

Detailed settings		20:30 (THU)
Unit no.	Code no.	Set data
3-1	10	0001
◆ Sel. ▶ Next		

- ④ Select the “Set data” by pressing the or button. Select one of the “Set data” by pressing the or button. Then press the button.

Detailed settings		20:30 (THU)
Unit no.	Code no.	Set data
3-1	10	0001
◆ Sel. [↵] Confirm		

- ⑤ Select the “Unit no.” by pressing the or button and press the button. The “Exit detailed settings and restart?” (Detailed setting-end) screen appears on the LCD display. Select “YES” and press the button.

Exit detailed settings and restart?		
YES	▶	NO
◆ Sel. ▶ Next		

## 7-4. List of Detailed Setting Items

Item code	Item	Setting data			
		No.	Description	No.	Description
10	Type	0001	4-Way Cassette (U3)	0005	Middle Static Pressure Duct (F3)
11	Indoor unit capacity	0005	36 S-3650PU3E(36) U3 S-3650PF3E(36) F3		
		0009	56 S-3650PU3E(50) U3 S-3650PF3E(50) F3	0011	71 S-6071PU3E(60) U3 S-6071PF3E(60) F3
		0012	80 S-6071PU3E(71) U3 S-6071PF3E(71) F3		
12	System address	0001	Unit No. 1		
		0002	Unit No. 2		
		0003	Unit No. 3		
		}	}		
		0030	Unit No. 30		
		0099	Not set		
13	Indoor unit address	0001	Unit No. 1		
		0002	Unit No. 2		
		0003	Unit No. 3		
		}	}		
		0064	Unit No. 64		
		0099	Not set		
14	Group control address	0000	Individual (1:1 = Indoor unit with no group wiring)		
		0001	Main unit (One of the group-control indoor units)		
		0002	Sub unit (All group-control indoor units except for main unit)		
		0099	Not set		
17	Cooling intake temperature shift	-010	Shifts intake temperature 10°C down.		
		-009	Shifts intake temperature 9°C down.		
		}	}		
		-001	Shifts intake temperature 1°C down.		
		0000	No intake temperature shift		
		0001	Shifts intake temperature 1°C up.		
		}	}		
		0009	Shifts intake temperature 9°C up.		
0010	Shifts intake temperature 10°C up.				
18	Automatic stop time after operation start  * Can be set in 5-minute units.	0000	Function disabled		
		0001	Stops automatically 5 minutes after operation starts.		
		0002	Stops automatically 10 minutes after operation starts.		
		}	}		
		0123	Stops automatically 615 minutes after operation starts.		
		0124	Stops automatically 620 minutes after operation starts.		
		0125	Stops automatically 625 minutes after operation starts.		

Item code	Item	Setting data		
		No.	Description	
<b>1b</b> (1B)	Forced thermostat ON time	0000	5 minutes	
		0001	4 minutes	
<b>1E</b>	Temperature shift for cooling/heating change in auto heat/cool mode	0001	± 1°C	
		0002	± 2°C	
		0003	± 3°C	
		{	}	
		0007	± 7°C	
<b>1F</b> (Upper limit) <b>20</b> (Lower limit)	Change to remote control temperature setting range	Cooling	0018	18°C (Lower limit at shipment)
			0019	19°C
			}	}
			0029	29°C
<b>21</b> (Upper limit) <b>22</b> (Lower limit)		Heating	0016	16°C (Lower limit at shipment)
			0017	17°C
			}	}
			0029	29°C
<b>23</b> (Upper limit) <b>24</b> (Lower limit)		Drying	0018	18°C (Lower limit at shipment)
			0019	19°C
			}	}
			0029	29°C
<b>25</b> (Upper limit) <b>26</b> (Lower limit)	Auto heat/cool	0017	17°C (Lower limit at shipment)	
		0018	18°C	
		}	}	
		0026	26°C	
<b>29</b>	Humidifier operation	0000	Normal	
		0001	Ignore heat exchanger temperature conditions.	
<b>2A</b>	Filter (CN70) input switching	0000	Filter input (differential pressure switch input)	
		0001	Alarm input (for trouble input about air cleaner or similar device)	
		0002	Humidifier input (Operates linked with drain pump when humidifier is ON.)	
<b>2C</b>	Indoor unit electronic control valve	0000	None	
		0002	Present (Setting at shipment)	
<b>2E</b>	T10 terminal switching	0000	Normal (Used as optional relay PCB or JEMA standard HA terminal.)	
		0001	Used for OFF reminder	
		0002	Fire prevention input	



Item code	Item	Setting data	
		No.	Description
2F	Automatic drain pump operation	0000	No forced operation
		0001	Forced operation for 1 minute
		}	}
		0060	Continuous operation
31	Ventilation fan operation	0000	None
		0001	Ventilation fan operated by remote controller.
32	Wired remote controller sensor	0000	Not used. (Body sensor is used.)
		0001	Remote control sensor is used.
34	"Operation change control in progress" display	0000	Normal (displayed)
		0001	Not displayed
35	OFF reminder function for when weekly timer is used	0000	None
		0001	Only stop time setting is enabled.
3C	Heat exchanger temperature for cold air discharge (Heat exchanger control point for control to prevent cold air)	-001	Control temperature -1°C
		0000	Control temperature 0°C
		}	}
		0025	Control temperature 25°C
		0026	Control temperature 26°C
3d	Fan output switching	0000	Output linked with fan. (ON when indoor unit fan is operating.)
		0001	Fan mode operation output
3E	Drain pump delayed stop time	0000	No delayed stop
		0001	1 minute delayed stop
		0002	2 minutes delayed stop
		}	}
		0058	58 minutes delayed stop
		0059	59 minutes delayed stop
		0060	60 minutes delayed stop
40	Humidifier setting	0000	Humidifier output OFF. Drain pump stopped.
		0001	Humidifier output ON. Drain pump operates.
		0002	Humidifier output ON. Drain pump operates for 1 minute when total humidifier operating time reaches 60 minutes.
		0003	Humidifier output ON. Drain pump stopped.
45	Flap operation mode	0000	Standard setting
		0001	Draft reduction mode (Flap lower-limit position is shifted upwards.)
46	Flap swing mode	0000	Smudging reduction mode (Flap swing upper-limit position is shifted downwards.)
		0001	Normal mode
		0002	Draft reduction mode (Flap swing lower-limit position is shifted upwards.)

Item code	Item	Setting data	
		No.	Description
5d	Fan tap setting (Fan tap change in order to prevent drop in air discharge caused by filter installation)		Purpose
		0000	Standard (factory setting)
		0001	High ceiling setting 1 (U3)
			Air-flow blocking kit (when a duct is connected : U3)
			Air-flow blocking kit (for 3-way air flow : U3)
		0003	High ceiling setting 2 (U3)
0006	Air-flow blocking kit (for 2-way air flow : U3)		
5E	Humidifier ON time (ON time per 60 seconds)	0000	No humidifier output
		0001	1 second
		0002	2 seconds
		{	}
		0058	58 seconds
		0059	59 seconds
		0060	Continuously ON
60	Timer function change prohibit	0000	Function disabled
		0001	Function enabled
62	Smudging control	0000	No smudging control
FC	Refrigerant adaptability	0000	None
		0001	Standard (factory setting)

## 7-5. Simple Setting Items

Item code	Item	Description
01	Filter sign ON time (filter life time)	Changes the indoor unit filter lifetime when a high-performance filter or other optional product is installed.
02	Degree of filter fouling	Reduces the filter sign ON time to 1/2 of the standard time (setting at the time of shipping) for cases when filter fouling is more severe than normal.

### Filter sign ON times for each model

Item code 10 Model data	Model	Filter sign ON time			
		Standard		Long-life	
		Standard	High fouling	Standard	High fouling
0001	4-Way Cassette (U3)	x	x	2500	1250

#### NOTE

- x indicates that there is no corresponding filter.
- ■ indicates the filter sign ON time that is set at shipment.
- High fouling: Set when **0001** is selected for the degree of filter fouling (item code **02**).

Item code	Item	Description
03	Central control address	Set when using a central control device. Used when setting the central control address manually from the remote controller.
04	Operating mode priority change	Note (1)

#### NOTE

There are other methods to avoid control in which the mode selected first takes priority.

Methods of remotely controlling the operating mode

- (1) Use the central functions of a central control device.
- (2) Use a remote control relay PCB at the outdoor unit.

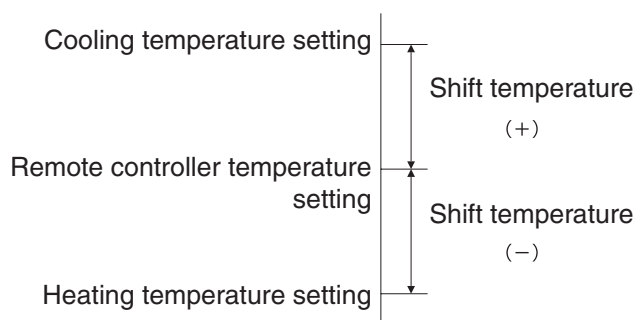
When the operating mode at the priority remote controller is changed, the operating modes of other remote controllers change as shown below.

Mode change at priority remote controller		Operating modes at other remote controllers	
Current mode	New mode	Current mode	New mode
Cooling or dry	Heating	Cooling or dry	Heating
		Fan	Fan (not changed)
Heating	Cooling	Heating	Cooling
		Fan	Fan (not changed)
Cooling	Dry	Cooling	Cooling (not changed)
		Dry	Dry (not changed)
Heating	Dry	Heating	Cooling
		Fan	Fan (not changed)
Cooling or dry	Fan	Cooling	Cooling (not changed)
		Dry	Dry (not changed)
		Fan	Fan (not changed)
Heating	Fan	Heating	Heating (not changed)
		Fan	Fan (not changed)

Item code	Item	Description
05	Fan speed setting when heating thermostat is OFF	Changes the fan speed setting when the heating thermostat is OFF.
06	Heating intake temperature shift	Shifts the intake temperature during heating. Can be set when the body thermostat is used.
07	Electric heater installation	Set when cost distribution is performed using an AMY central control system or similar system, and when an optional electric heater is installed. (This is unrelated to control of the electric heater.)
08	Humidifying when heater thermostat is OFF	Normally humidifying does not occur when the thermostat is OFF during heating operation. However, this setting can be changed in order to increase the amount of humidifying. Caution: In order to avoid water leakage and damage to the fan, do not use this setting unless a vaporizing humidifier is used.
0D	Permit/prohibit automatic heating/cooling	This setting can be used to prevent the automatic heating/cooling display on the remote control if the unit configuration permits automatic heating/cooling operation.
0F	Cooling-only	This setting allows a heat pump indoor unit to be operated as a cooling-only unit.

## 7-6. Detailed Setting Items

Item code	Item	Description
10	Unit type	Set when the indoor unit EEPROM memory is replaced during servicing.
11	Indoor unit capacity	
12	System (outdoor unit) address	These are not set at the time of shipping from the factory. These must be set after installation if auto address setting is not performed.
13	Indoor unit address	
14	Group address	
17	Cooling intake temperature shift	Shifts the intake temperature during cooling and dry operation. (Enabled only when the body thermostat is used.) Increase this value when it is difficult to turn the thermostat ON.
18	Automatic stop time after operation start	The time at which an indoor unit is automatically stopped after operation starts can be set in increments of 5 minutes
1b	Forced thermostat ON time	Use this setting to change the time for forced operation at installation or servicing from 5 minutes to 4 minutes. (Enabled only with PAC models.)
1E	Temperature shift for cooling/heating change in "auto heat/cool" mode	"Auto heat/cool" selects the operating mode automatically based on the difference between the room temperature and the temperature set on the remote controller. This setting establishes a shift temperature for the heating/cooling temperature setting relative to the remote controller temperature setting.



Item code	Item	Description
1F (Upper limit) 20 (Lower limit)	Change to the remote control temperature setting range	Cooling Heating Drying Auto heat/cool This setting changes the temperature range (upper limit and lower limit) which is set from the remote controller or central control device. The set upper limit must be greater than or equal to the lower limit. If the temperature setting is to be a single point, set the upper limit and lower limit to the same temperature.
21 (Upper limit) 22 (Lower limit)		
23 (Upper limit) 24 (Lower limit)		
25 (Upper limit) 26 (Lower limit)		
29	Humidifier operation which ignores the heat exchanger temperature	During heating operation, the humidifier operates when the heat exchanger temperature is suitable for humidifying. This setting is used to ignore this condition for humidifier operation and operate the humidifier more.
2A	Filter input switching	This setting switches the filter input according to the purpose of use.
2C	Indoor unit electronic control valve	This setting indicates whether or not an indoor unit electronic control valve is present. At the time of shipping, this setting is set according to the conditions of the indoor unit.
2E	T10 terminal input switching	Ordinarily, the T10 terminal is used as the HA terminal at the time of shipping. However, this setting is used when the T10 terminal is used for OFF reminder or for fire prevention input.
31	Ventilation fan operation from remote controller	It is possible to install a total heat exchanger and ventilation fan in the system, which can be started and stopped by the wired remote controller. The ventilation fan can operate linked with the start and stop of the indoor unit, or can be operated even when the indoor unit is stopped. Use a ventilation fan that can accept the no-voltage A contact as the external input signal. In the case of group control, the fans are operated together. They cannot be operated individually.
32	Switching to remote controller sensor	This setting is used to switch from the body sensor to the remote controller sensor. Check that "remote controller sensor" is displayed. Do not use this setting with models that do not include a remote controller sensor. Do not use this setting if both the body sensor and remote sensor are used.
34	ON/OFF of "Operation change control in progress" display	In a MULTI system with multiple remote controllers, switching between heating and cooling is restricted, and "Operation change control in progress" is displayed. This setting is used to prevent this display from appearing. See the item concerned with operating mode priorities.
35	OFF reminder function for weekly timer	This setting switches the operation when the weekly timer is connected to the remote controller. This can be used to prevent cases in which the unit is accidentally left ON. There is no change when this setting is ON, however it is necessary to set the weekly timer ON time.

(Continued)

(Continued from previous page)

<b>Item code</b>	<b>Item</b>	<b>Description</b>
<b>3C</b>	Heat exchanger temperature for cold air discharge	The heat exchanger temperature control point for prevention of cold air discharge during heating operation can be changed.
<b>3d</b>	Fan output switching	The indoor unit PCB optional output for the fan can be switched according to the purpose of use.
<b>3E</b>	Drain pump delayed stop time	The drain pump stops for the set time delay after cooling operation stops.
<b>40</b>	Humidifier drain pump setting	This specifies the humidifier and drain pump setting.
<b>45</b>	DC flap operation mode	Changes flap operation to draft reduction mode.
<b>46</b>	DC flap swing mode	Selects the swing operation mode for the flap.
<b>5d</b>	DC fan tap setting	Sets the DC fan tap according to the purpose of use. Change the settings data at the same time.
<b>5E</b>	Humidifier ON time	Sets the humidifier output ON time for when the humidifier is operating. ON/OFF control is performed during humidifier operation. This setting therefore sets the ON time per 60-second interval.
<b>5F</b>	Stop at time set for OFF timer after operation starts	This setting enables a function that stops operation when the amount of time set for the OFF timer has passed after remote controller operation was started.
<b>60</b>	Timer function change prohibit	This function prohibits changes from being made to the remote controller time setting.
<b>62</b>	Smudging control	Smudging control is disabled when 0000 is set.
<b>FC</b>	Refrigerant adaptability	This item is set to 01 when the indoor unit model adapted with both R410A and R32.

## ■ DC Fan Tap Change Procedure (in the case of 4-way Cassette (U3))

### <Procedure>

It is necessary to set the fan speed in accordance with the intended application and the optional parts to be used if any such part is used. (Table 1)

If this speed is not changed, a reduction in the air flow may result, causing the air outlet temperature to drop and condensation to form during cooling.

There are two ways to set the fan speed: either (1) change the positions of the DIP switches on the indoor unit control PCB or (2) set the speed using the wired remote controller. Select one of these ways.

\* Priority is given to setting the fan speed by changing the positions of the DIP switches.

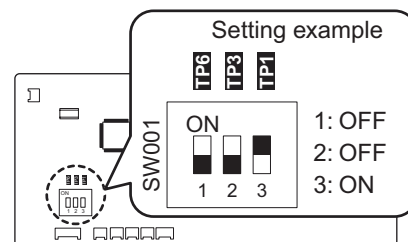
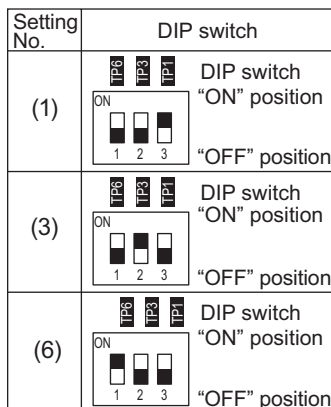
**Table. 1** DC fan motor tap setting table

Setting No	Item code 5D/5d setting data	Intended application / name of optional parts	Setting No	Item code 5D/5d setting data	Intended application / name of optional parts
	0000	Standard (factory setting)	(1)	0001	Air-flow blocking kit (for 3-way air flow)
(1)	0001	High-ceiling setting 1 (with standard, ECONAVI panel)	(3)	0003	High-ceiling setting 2 (with standard, ECONAVI panel)
		Air-flow blocking kit (when a duct is connected.)	(6)	0006	Air-flow blocking kit (for 2-way air flow)

### (1) When setting the fan speed by changing the positions of the DIP switches on the indoor unit control PCB

<Procedure> Be absolutely sure to turn off the power (earth-leakage circuit breaker).

- <1> On Table 1, check out the "Setting No." that corresponds to the intended application and the optional parts to be used.
- <2> Open the cover of the electrical parts box, and check the indoor unit control PCB. (Fig. 7-5)
- <3> Select the Setting No. which was checked out on Table 1, and change the positions of the DIP switches on the indoor unit control PCB.



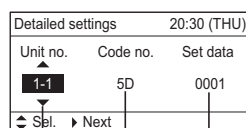
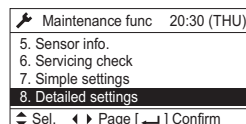
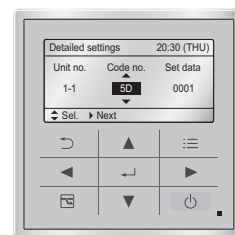
**Fig. 7-5**  
Indoor unit control PCB

### (2) When setting the fan speed using a wired remote controller (optional parts: CZ-RTC5B)

On Table 1, check out the "Item code 5D setting data" that corresponds to the intended application and the optional parts to be used.

<Procedure> Ensure that the unit has stopped operating before changing the fan speed.

- <1> Hold down the + + buttons together for at least 4 seconds. The maintenance function screen is displayed.
- <2> Use the / buttons to select the display and the / buttons to select the page. Select "8. Detailed settings" and press the button. The [Detailed settings screen] appears. Using the / buttons, select the unit No.
- <3> Using the / buttons, select the item code. Using the / buttons, change the item code to "5D."
- <4> Using the / buttons, select the setting data. Using the / buttons, change the setting data to the value checked out on Table 1, and press the button.
- <5> After selecting the unit No. using the / buttons, press the button. The [Detailed settings completion screen] appears. Select "Yes", and press the button.



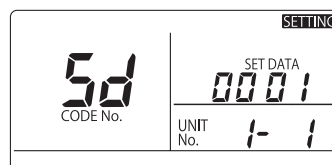
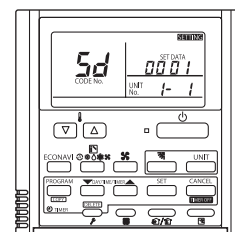
Unit No. | Setting data  
Item code

### (3) When setting the fan speed using a wired remote controller (optional parts: CZ-RTC4)

On Table 1, check out the "Item code 5d setting data" that corresponds to the intended application and the optional parts to be used.

<Procedure> Ensure that the units have stopped operating before changing the fan speed.

- <1> Hold down the + + buttons together for at least 4 seconds.
- <2> Each time the button is pressed, the numbers of the indoor units under group control are displayed in sequence. The fan motor of only the indoor unit that has been selected will run.
- <3> Specify item code "5d" using the temperature setting / buttons.
- <4> Change the setting data using the hour buttons. The setting data details are as given on Table 1.
- <5> Press the button. (OK if the display changes from flashing to lighted.)
- <6> Press the button. The normal stop status is established. Go to step <2> to change the selected indoor unit.
- <7> Press the button. The normal stop status is established.

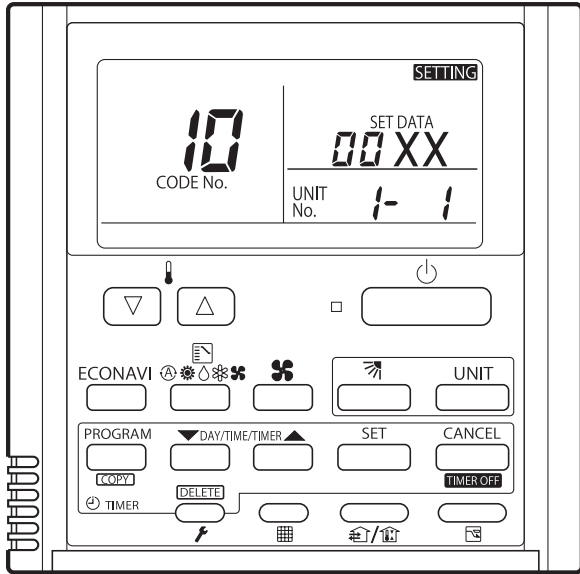




## 7-7. Remote Controller Servicing Functions

- The remote controller includes a number of servicing functions. Use these as needed for test runs and inspections.

### ■ Timer Remote Controller CZ-RTC4



CZ-RTC4








Fig. 7-6

### List of Servicing Functions

Functions	Description	Button operation	Reset operation	Unit status
Test run	Operation with forced thermostat ON	Press and hold the  button for 4 seconds or longer.		
Sensor temperature display	Temperature display from each sensor	Press and hold the  and  buttons for 4 seconds or longer.		Current operation is maintained.
Servicing check display	Alarm history display	Press and hold the  and  buttons for 4 seconds or longer.	Press the  button.	
Simple settings	Filter lifetime, operating mode priority, central control address, and other settings	Press and hold the  and  buttons for 4 seconds or longer.		When settings are made from a remote controller, the indoor unit where that remote controller is connected stops.
Detailed settings	System address, indoor unit address, central control address, and other settings	Press and hold the ,  and  buttons for 4 seconds or longer.		
Auto address	Auto address setting based on command from the wired remote controller	Press and hold the  and the timer operation  buttons for 4 seconds or longer.	Automatic reset	
Address change	Change of indoor unit address	Press and hold the  and the timer operation  buttons for 4 seconds or longer.	Press the  button.	Entire system stops.

## ■ High-spec Wired Remote Controller CZ-RTC5B

Display of "maintenance function" screen

- 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.

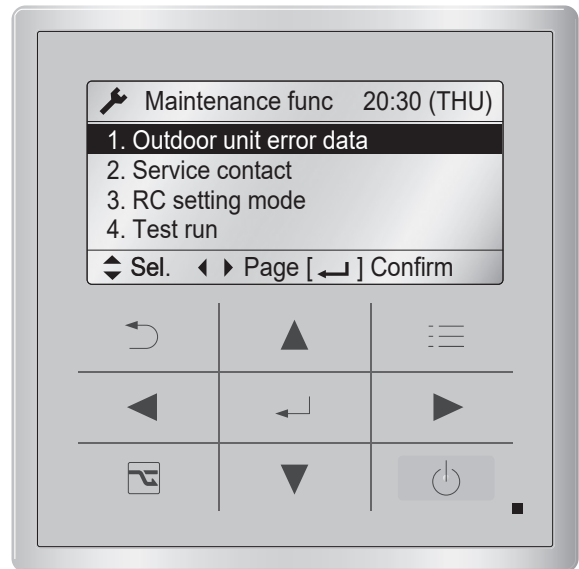




Fig. 7-7




### List of Servicing Functions

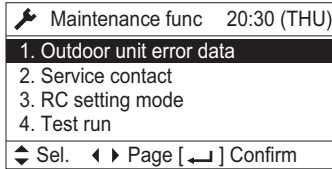
Functions	Description	Menu selection	Reset operation	Unit status
Test run	Operation with forced thermostat ON	4. Test run		
Sensor temperature display	Temperature display from each sensor	5. Sensor info	Press the  button.	
Servicing check display	Alarm history display	6. Service check		
Simple settings	Filter lifetime, operating mode priority, central control address, and other settings	7. Simple settings	Press the  button. (Restart)	When settings are made from a remote controller, the indoor unit where that remote controller is connected stops.
Detailed settings	System address, indoor unit address, central control address, and other settings	8. Detailed settings		
Auto address	Auto address setting based on command from the wired remote controller	9. Auto address	Automatic reset	Entire system stops.






## 7-8. Test Run Function

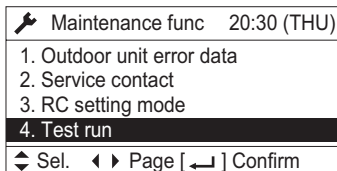
Operates the unit with the thermostat forced ON.




### <Procedure of CZ-RTC5B>

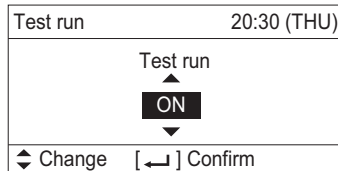
- Keep pressing the ,  and  buttons simultaneously for 4 or more seconds. The "Maintenance func" screen appears on the LCD display.






- Press the  or  button to see each menu. If you wish to see the next screen instantly, press the  or  button. Select "4. Test run" on the LCD display and press the  button.

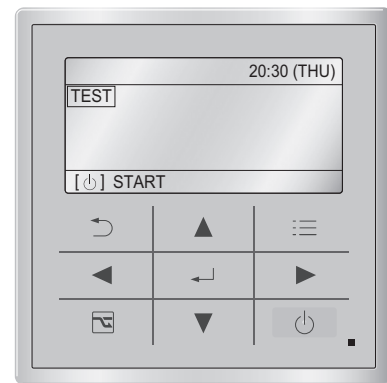


Change the display from OFF to ON by pressing the  or  button. Then press the  button.




### <Procedure of CZ-RTC4>

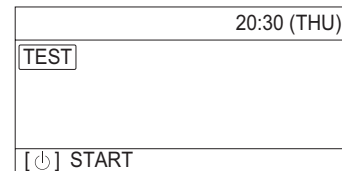
- Press and hold the  button for 4 seconds or longer.
- "TEST" appears on the remote controller LCD display (Fig. 7-9).
- Press the  button to start the test run.
- Press the  button to return to normal remote controller display.




CZ-RTC5B

Fig. 7-8

- Press the  button. "TEST" will be displayed on the LCD display.



- Press the  button. Test run will be started. Test run setting mode screen appears on the LCD display.

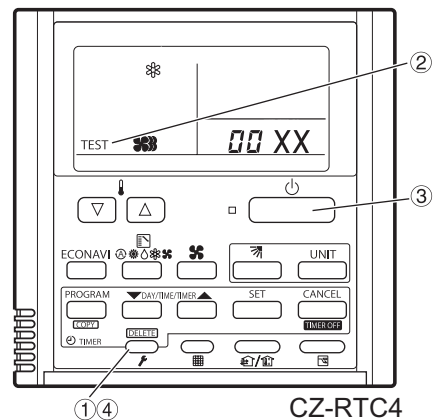
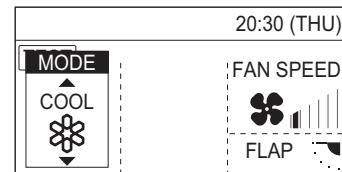










Fig. 7-9

CZ-RTC4



**<Procedure of CZ-RTC5B>**



- ① Keep pressing the ,  and  buttons simultaneously for 4 or more seconds. The "Maintenance func" screen appears on the LCD display.

Maintenance func		20:30 (THU)
1. Outdoor unit error data		
2. Service contact		
3. RC setting mode		
4. Test run		
Sel.		Page [left arrow] Confirm

- ② Press the  or  button to see each menu. If you wish to see the next screen instantly, press the  or  button. Select "5. Sensor info." on the LCD display and press the  button.



Maintenance func		20:30 (THU)
5. Sensor info.		
6. Servicing check		
7. Simple settings		
8. Detailed settings		
Sel.		Page [left arrow] Confirm

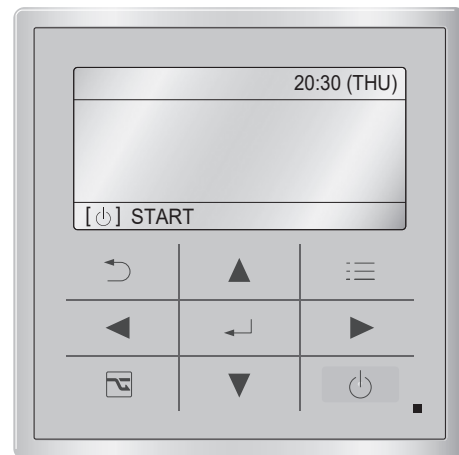
Select the "Unit no." by pressing the  or  button for changes.

Sensor info.		20:30 (THU)
Unit no.	Code no.	Data
	00	0026
<b>1-1</b>	01	0028
	02	0026
Sel.		Next

Then press the  button. Display sensor information of the unit.

Sensor info.		20:30 (THU)
Unit no.	Code no.	Data
1-1	00	0026
	01	0028
	02	0026
Scroll		

Refer the information by pressing the  or  button.











CZ-RTC5B


Fig. 7-10



## ■ Auto address setting

### <Procedure of CZ-RTC5B>






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

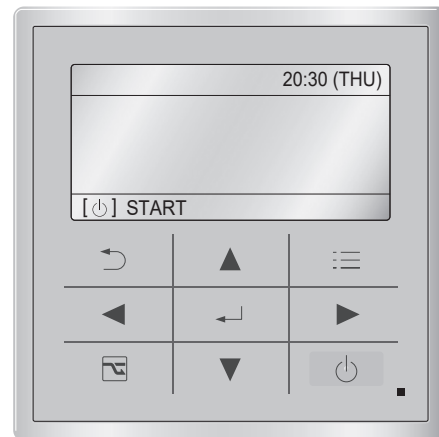
② Press the  or  button to see each menu. If you wish to see the next screen instantly, press the  or  button. Select “9. Auto address” on the LCD display and press the  button.

Maintenance func	20:30 (THU)
<b>9. Auto address</b>	
10. Set elec. consumption	
11. Set touch key	
12. Check touch key	
◆ Sel. ◀▶ Page [  ] Confirm	

③ The “Auto address” screen appears on the LCD display. Change the “Code no.” to “A1” by pressing the  or  button.

Auto address	20:30 (THU)
Code no.	O/D unit no.
<b>A1</b>	1
◆ Sel. ▶ Next	




④ Select the “O/D unit no.” by pressing the  or  button. Select one of the “O/D unit no.” for auto address by pressing the  or  button. Then press the  button. Approximately about 10 minutes are required. When auto address setting is completed, the units return to normal stopped status.









CZ-RTC5B


Fig. 7-11

## ■ Checking indoor unit addresses



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

Maintenance func	20:30 (THU)
<b>1. Outdoor unit error data</b>	
2. Service contact	
3. RC setting mode	
4. Test run	
◆ Sel. ◀▶ Page [  ] Confirm	

② Press the  or  button to see each menu. If you wish to see the next screen instantly, press the  or  button. Select “7. Simple settings” on the LCD display and press the  button.

Maintenance func	20:30 (THU)
5. Sensor info.	
6. Servicing check	
<b>7. Simple settings</b>	
8. Detailed settings	
◆ Sel. ◀▶ Page [  ] Confirm	

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

Select the “Unit no.” by pressing the  or  button for changes.

Simple settings	20:30 (THU)	
Unit no.	Code no.	Set data
<b>1-1</b>	01	0001
◆ Sel. ▶ Next		

The indoor unit fan operates only at the selected indoor unit.

– MEMO –

## 8. HOW TO INSTALL THE WIRELESS (INFRARED) REMOTE CONTROLLER RECEIVER

8-1. Important Safety Instructions.....	8-1
8-2. Optional Controller (Remote Controller).....	8-2-1-1
8-2-1-1. Names and Operations.....	8-2-1-1
8-2-1-2. Installing Batteries.....	8-2-1-3
8-2-1-3. Setting the Current Time.....	8-2-1-3
8-2-1-4. Operation.....	8-2-1-4
8-2-1-5. Timer Operation.....	8-2-1-5
8-2-1-6. Lock Individual Flap.....	8-2-1-6
8-2-1-7. Operating Multiple In/Outdoor Units Simultaneously (Group Control) ...	8-2-1-6
8-2-1-8. Using the Remote Controller.....	8-2-1-7
8-2-1-9. Pairing Addresses.....	8-2-1-7
8-2-1-10. Emergency Operation.....	8-2-1-9
8-2-1-11. Miscellaneous Settings.....	8-2-1-10
8-2-1-12. Button Control.....	8-2-1-10
8-2-1-13. nanoe™ X Setting.....	8-2-1-11
8-2-1-14. ECONAVI Setting.....	8-2-1-11
8-2-1-15. Ventilation Setting.....	8-2-1-11
8-2-1-16. Energy Saving Setting.....	8-2-1-11
8-2-1-17. Temperature Automatic Return.....	8-2-1-12
8-2-1-18. Troubleshooting.....	8-2-1-13
8-3. Wiring for the Receiver.....	8-3-1
8-3-1. Common to All Models.....	8-3-1
8-3-2. CZ-RWRU3, CZ-RWRU3W.....	8-3-3
8-3-3. CZ-RWRC3.....	8-3-6
8-3-4. Common to All Models.....	8-3-10

## 8-1. Important Safety Instructions

### **WARNING**

#### **Installation Precautions**

- Do not install yourself  
Installation should always be performed by your dealer or a professional service provider.  
Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Use only specified air conditioners  
Always use only air conditions specified by the dealer.

#### **Precautions for Use**

- Do not touch switches with wet hands  
Electric shock and damage to the system can result.
- Protect the remote controller from water  
Damage to the system can result.
- Stop the system and turn the power off if you sense unusual smells or other irregularities  
Continuing operation when the system is out of order can result in electric shock, fire, and damage to the system.  
Contact your dealer.
- Do not swallow the battery.

#### **Moving and Repair Precautions**

- Do not repair  
Never repair the system by yourself.
- Contact your dealer before moving the system  
Contact your dealer or a professional service provider about moving and reinstalling the system.  
Electric shock or fire may result if an inexperienced person performs any installation procedures incorrectly.














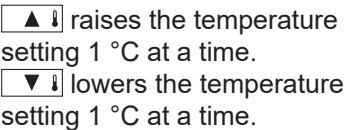


## 8-2. Optional Controller (Remote Controller)

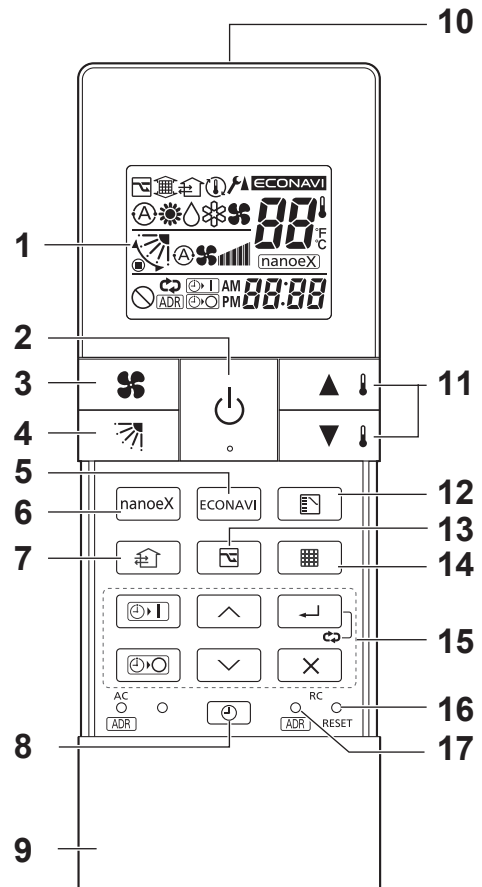
### Wireless (Infrared) Remote Controller CZ-RWS3


1 remote controller can control a group of up to 8 indoor units. (See page 8-2-1-6)

#### 8-2-1-1. Names and Operations

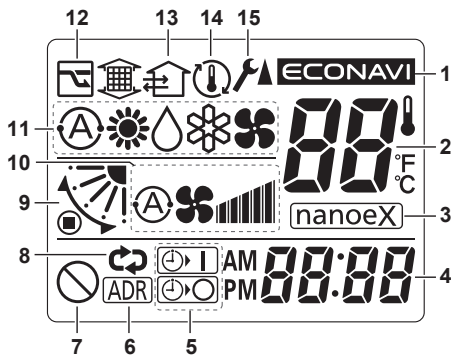
##### REMOTE CONTROLLER

<b>1. Operation Display</b>	Displays the operation status. (The figure shows all the statuses.)	<b>14. Filter button</b> 	Press to turn off the filter lamp on the receiver.
<b>2. Start/Stop button</b> 	Pressing this button once starts and pressing again stops the operation.	<b>15. Timer setting buttons</b> 	Use for operating with a timer.
<b>3. Fan speed button</b> 	Press to change the fan speed.	<b>16. RC reset button</b> 	Use this button after changing the batteries.
<b>4. Flap button</b> 	Press to change the flap direction.	<b>17. RC address button</b> 	Press to set addresses.
<b>5. ECONAVI button</b> 	Press to set ECONAVI.		
<b>6. nanoe™ X button</b> 	Press to set nanoe™ X.		
<b>7. Ventilation button</b> 	Use this when connected to an aftermarket fan.		
<b>8. Clock button</b> 	Use this to set the clock.		
<b>9. Cover</b>	Press at the top center and then slide down.		
<b>10. Transmitter</b>			
<b>11. Temperature setting buttons</b>	 ▲ raises the temperature setting 1 °C at a time. ▼ lowers the temperature setting 1 °C at a time.		
<b>12. Mode Select button</b> 	Press to switch the operation mode.		
<b>13. Energy saving button</b> 	Press to enable or disable energy saving.		










From this page, the names of remote controller's buttons will be indicated with the above illustrations.  
 E.g.: Start/Stop button → 

## Screen display



- 1 Appears when ECONAVI is being set to ON.
- 2 Indicates the set temperature.

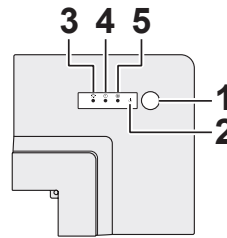
- 3 Appears when nanoe™ X is being set to ON.
- 4 Displays the present time.
- 5 Timer program indication  
 : The indoor unit starts operation at the programmed time.  
 : The indoor unit stops operation at the programmed time.
- 6 Indicates the remote controller addresses are set.
- 7 Appears when the function is not available.
- 8 The ON timer or the OFF timer will operate repeatedly every day.
- 9 Indicates the flap position.

- 10 Indicates the fan speed.
- 11 Displays the selected operation mode. (AUTO  / HEAT  / DRY  / COOL  / FAN )
- 12 Energy saving operation is in process.
- 13 Appears when a fan available in the market is installed and is operating.
- 14 “Temperature Automatic Return” is set.
- 15 Appears when the setting screen is displayed.

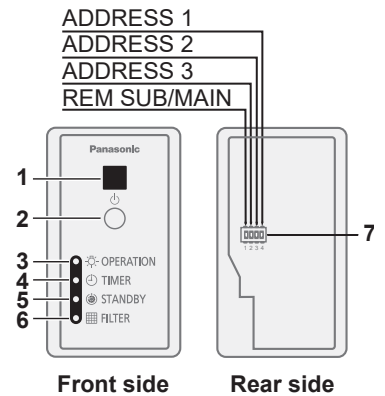
## RECEIVER

<b>1. Receiver</b>	Receives the signal sent from the remote controller.
<b>2. Emergency operation button</b>	See page 8-2-1-9.  <b>Indicator lamps</b> When an error occurs, one of the lamps flashes. When an indicator lamp is flashing, see “8-2-1-18. Troubleshooting”.
<b>3. OPERATION lamp</b>	Lights up when the unit is operating.
<b>4. TIMER lamp</b>	Lights up when the timer is set.
<b>5. STANDBY lamp</b>	The lamp in the HEAT mode lights up at the following times: during the startup, during the thermostat operation, and during the defrosting.
<b>6. FILTER lamp</b>	This lamp is for notifying you when the filter needs to be cleaned.
<b>7. Address switch</b>	See the section “8-2-1-9. Pairing Addresses”





### CZ-RWRU3 CZ-RWRU3W



### CZ-RWRC3



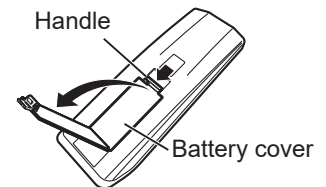
## NOTE

- If a heat pump (2WAY) type is being used, it will beep twice and the operating lamp will light up on the display; if the timer and standby lamps blink alternately, a conflict between the heating and cooling exists, so the unit cannot operate in the desired mode. (On models that do not have an Auto function, even if Auto is selected, it works in the same way.)
- When the local operation is disabled by centralized control or similar cause, and if the Start/Stop , Mode  or Temperature setting button   is pressed, the unit will beep five times and the change will not be made.

### 8-2-1-2. Installing Batteries

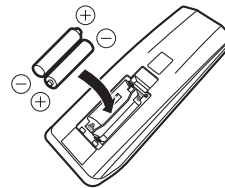
#### 1. Remove the battery cover.

- Pinch the handle and open while pressing it towards the ▼ mark.



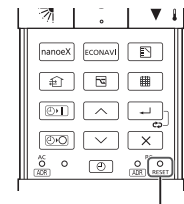
#### 2. Insert two LR03 size batteries.

Put the batteries in with the polarity [+/-] as shown in the figure.



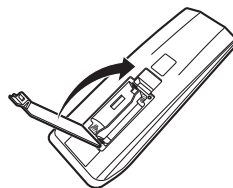
#### 3. Gently insert one end of an unfolded paper clip (or a similar object that can fit) into the RC reset hole and press the RC reset button inside the hole.

- Take the batteries out and insert again if the time display is not “0:00” or “AM 12:00”.



RC reset button

#### 4. Put the battery cover back on.



#### ■ Notes on batteries

- The battery life is approximately 1 year.
- Reception may become poor or display on the remote controller fades when batteries are low.
- If the remote controller will not be used for a long period of time, remove the batteries. (In order to avoid a battery leak.)
- Emergency operations can be performed on the unit when the batteries run out. (See page 8-2-1-9)

#### ■ Replacing batteries

- Replace both batteries at the same time with 2 LR03 size batteries.
- Do not use rechargeable batteries (NiCd, NiMH, etc.) because their size, shape, and some performance are different.
- Dispose of the old batteries at the designated sites in your community.
- The unit is restored with the factory setting when batteries are removed.
- After changing the batteries, reset the current time. (See Section “8-2-1-3. Setting the Current Time”)

### 8-2-1-3. Setting the Current Time

#### 1. Press for 2 seconds or longer.

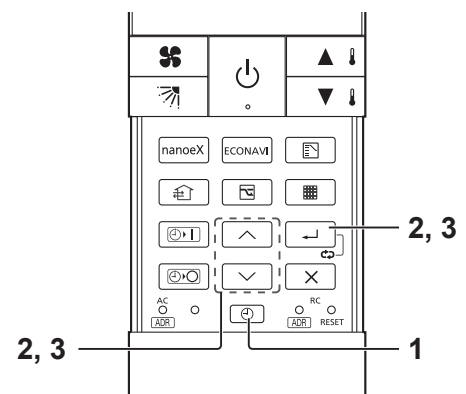
- The time display flashes. (The colon lights up.)

#### 2. Press / to set the hour, then press .

#### 3. Press / to set the minutes, then press .

#### Note

- If the buttons are not pressed for a certain duration while setting the time, the displayed time is set.
- Adjust the time periodically.









### 8-2-1-4. Operation

Hold the remote controller with your hand and point its transmitter at the receiver.










**Power: Turn on the circuit breaker beforehand, referring to the operating instructions for the unit.**

1. Press .





2. Press  to select the operation mode.

- Every time you press , it cycles from “Auto  → Heat  → Dry  → Cool  → Fan ”.
- Models that only provide the cooling function cannot operate in the Auto or Heat mode.
- The available functions differ depending on the indoor unit being used. See page 8-2-1-10 for how to change the operation mode display.

3. Press  to select the fan speed.










- Every time you press , it cycles from “ →  →  →  (Auto)”.
- Auto does not work in Fan mode.
- If the unit is not heating very effectively with a fan speed “”, switch the fan speed to “” or “”.
- The available functions differ depending on the indoor unit being used.
- “” is displayed if the function is not available.

4. Press  /  to set the temperature.

	MAX (°C)	MIN (°C)
Auto 	27	17
Heat 	30	16
Dry  / Cool 	30	18

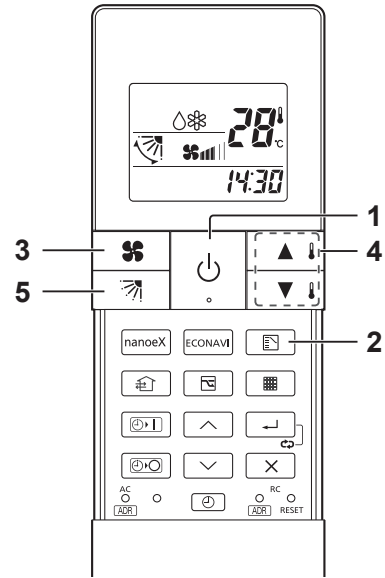
- Temperature settings cannot be made in Fan mode.
- The temperature range that can be set varies depending on the model.
- The maximum temperature varies depending on the system and operating condition. See page 8-2-1-10 for how to change the maximum temperature.

5. Press  to select the flap direction.

- Every time you press , it cycles from “ →  →  →  →  (Swing) →  (Stop)”.
- If you press  again while the flap is swinging, you can stop the flap from swinging and set it in place as desired.
- When the unit is in heating standby, the flap (up-down wind direction plate) faces upwards.
- The available functions differ depending on the indoor unit being used.
- “” is displayed if the function is not available.
- **Never try to manually move the flap (up-down wind direction plate) that is operated by the remote controller.**

**Stop: Press** .

- If you cannot turn the air conditioner off in the normal way, disconnect the power to the indoor unit and contact the dealer where the product was purchased.
- When the unit is stopped with the remote controller, the fan on the outdoor unit may continue to run for a while.



#### < Auto operation >

It heats or cools automatically via the differences between the set temperature and the room temperature. Auto operation is available only when identical refrigerant system inside all the indoor units or cooling/heating free-type are under control as 1 group. When using gas heat pump (GHP) air conditioners, contact the dealer where the product was purchased.

### 8-2-1-5. Timer Operation

- When setting the timer, make sure the current time on the remote controller is accurate.
- The timer's clock can only be set when the display of the remote controller is ON.
- After setting the timer, put the remote controller for in a place where its signal will reach the receiver of the indoor unit.

#### 1. Press or twice.

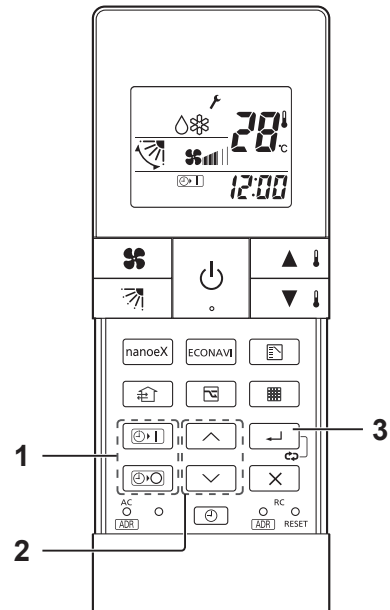
- The time last set on the timer starts blinking. (“- -: - -” blinks when the timer is not set or after replacing batteries.)

#### 2. Press / to set the timer to the desired time.

- Every time you press / , the time changes in 10 minute increments.
- If you press and hold the button, the time changes quickly.

#### 3. Press .

- The timer display stops blinking and the display reverts to the current time after 3 seconds.
- “ / ” is displayed when set.



### Combining ON and OFF Timers

#### 1. The ON and OFF timers can be set respectively.

### Checking the timer setting

#### 1. Press or .

- The scheduled time is displayed for 4 seconds.
- When the timer is not set or after replacing batteries, it displays “- -: - -”. (Initial setting)

### Changing a timer setting

#### 1. Perform Step 1 to 3 noted above as you did when setting.

### Canceling a timer setting

#### 1. Press .

- If you wish to cancel the setting for either the or the timer, press while the scheduled time is displayed.

### Using the same timer setting every day

#### 1. Press for 2 seconds or longer.

- “” is displayed when set.
- If you press again for 2 seconds or longer, “” goes off and the timer operates only once.


### 8-2-1-6. Lock Individual Flap

(Supported models: 4-way ceiling cassette type)

You can set the flap for each air outlet individually according to the room condition.

- Even if the flap setting is changed with  (Page 8-5), the flap directions set here are not changed.





#### 1. Press and at the same time for 4 seconds or longer.

- “” starts blinking and the setting screen is displayed.









#### 2. Press / to select the indoor unit to set, then press .

- Every time you press / to switch between “U1 ↔ U2 ↔ ... ↔ U8 ↔ AL (All indoor units that are connected to the remote controller)”, the buzzer sounds from the corresponding receiver.
- When settable: 1 short beep
- When not settable\*: 1 short beep followed by 1 long beep
- \* When the indoor unit is not connected or does not support this function.



#### 3. Press / to select the air outlet.

- Every time you press  / , it cycles from “F1 ↔ F2 ↔ F3 ↔ F4 ↔ AL (All the air outlets)”.
- The square mark (indented ) on the panel of the indoor unit indicates air outlet No. 1. There are some models that do not have a square mark (indented ).
- The air outlet No. changes according to the installation direction. Check by actual operation.


#### 4. Press / to select the flap direction, then press .

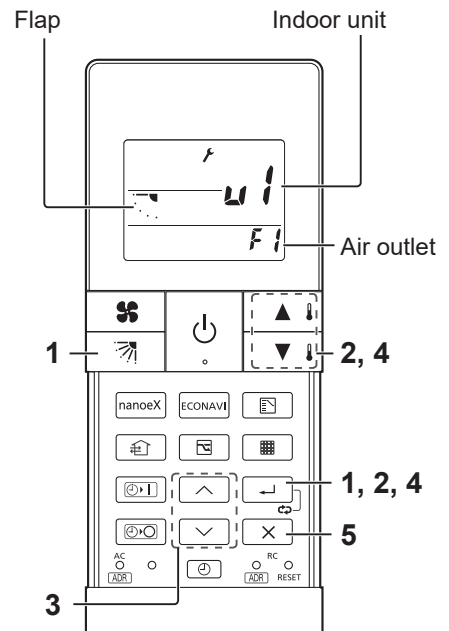
- Every time you press  / , it cycles from “ (Unlock) ↔  (Swing) ↔  ↔  ↔  ↔ ”.


#### 5. Press .

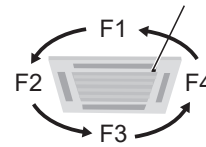
- You can return to Step 2 to continue setting if you press  instead of .

Note

- Press  to stop operation in the middle.



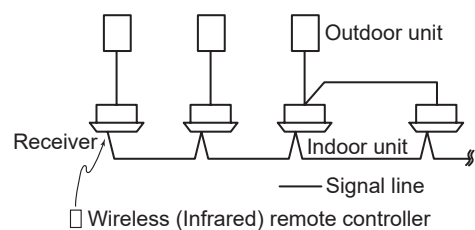
Square mark (indented )



### 8-2-1-7. Operating Multiple In/Outdoor Units Simultaneously (Group Control)

Group control works well for providing air conditioning to 1 large room with more than 1 air conditioning units.

- 1 remote controller can operate up to 8 indoor units.
- All the indoor units have identical settings.
- Set temperature sensing to the indoor unit (Main sensor). (See page 8-2-1-1)



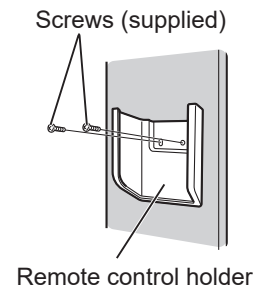
### 8-2-1-8. Using the Remote Controller

- Hold the remote controller with your hand and point its transmitter at the receiver. When the signal is received properly, it will beep.
- Signals can travel a direct distance of 6 metres. This distance should be used only as a guide. It depends on battery strength.
- Make sure nothing is between the remote controller and the receiver that could block the signal.
- Do not leave the remote controller in direct sunlight, where the wind from the air conditioner can blow directly on it, or near any other heat source.
- Take care not to drop, throw, or wash the remote controller with water.
- The signal from the remote controller may not be received in rooms with rapid start fluorescent lighting or inverter lights. For more information, please contact the dealer where the product was purchased.


#### Wall Mount Use

##### ■ Mounting the holder

##### 1. Fasten the remote control holder with screws.

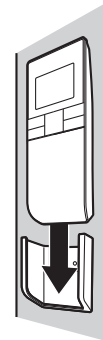


##### 2. Slide the remote controller down into the holder.

- Press  from the location you wish to mount the remote controller and make sure the signal is received properly.

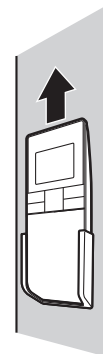
##### Note

- You cannot operate if the distance between the remote controller and the receiver is greater than that signals can travel.



##### ■ Detaching the controller

##### 1. Pull the remote controller up.




### 8-2-1-9. Pairing Addresses

When more than 1 indoor units are installed in the same room with a compatible remote controller, addresses can be set up to avoid crosstalk.

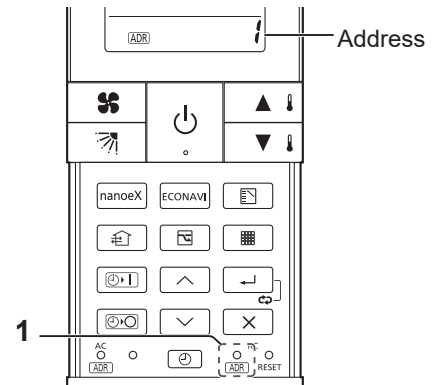
You can control up to 6 indoor units individually by the supported remote controller by pairing the address on the remote controller and the number on the address switch on the receiver.

There are separate address settings: receiver addresses for the receivers, and transmitter addresses for the remote controller. Units will not be controlled if the setting do not match.

## Checking Addresses

1. Press  with one end of an unfolded paper clip (or a similar object that can fit).

- Its current address appears on the display for 5 seconds.
- If this address corresponds to the address of a receiver, the buzzer sounds. (If it is on ALL, the buzzer will always sound.)
- If it is on ALL, it can be operated regardless of receiver addresses. Point the remote controller at the receiver you wish to operate and transmit.



## Matching Up Addresses


■ If not wall mounted type indoor unit

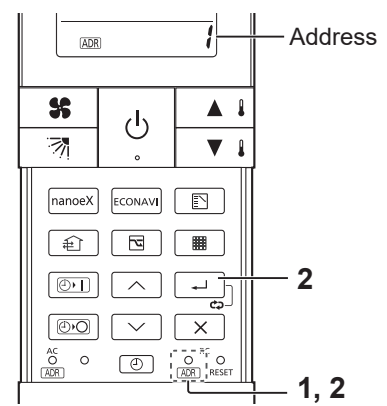
< Setting Remote Controller Addresses >

1. Press  with one end of an unfolded paper clip (or a similar object that can fit) for 4 seconds or longer.

- The current address number starts blinking.

2. Press  to select the address of the receiver you want to control, and press .

- Every time you press , it cycles from “ALL (All the addresses) → 1 → 2 → 3 → 4 → 5 → 6”.
- If it corresponds to the receiver’s address setting, the buzzer sounds.



Note

- Set the address of the receiver as instructed in the operating instructions of your receiver. Do not set by yourself. Contact the dealer where the product was purchased.

■ For wall mounted type indoor unit

< Setting the address of the indoor unit >

1. Press [Emergency Operation] (⏏) of the indoor unit for 4 seconds or longer.

- OPERATION lamp, TIMER lamp, and then STANDBY lamp repeatedly light one after the other for 1 second each to indicate the unit is ready for address setting.

< Setting Remote Controller Addresses >

2. Set the address for the remote controller following the procedure under the section “■ If not wall mounted type indoor unit” (see this section noted above).

- Repeat Step 2 under “■ If not wall mounted type indoor unit” if you are setting more units.
- The address setting ready status of the indoor unit ends if data transmission is not received from the remote controller for 3 minutes.
- Press [Emergency Operation] (⏏) on the receiver to end the address setting ready status of the indoor unit.



## 8-2-1-10. Emergency Operation

Use [Emergency Operation] (⏻) in the following situations when there is an urgent need.

- When the remote controller's batteries have failed.
- When the remote controller is broken.
- When the remote controller is lost.

\*See the following figures regarding Emergency button.

### 1. Press [Emergency Operation] (⏻) of the receiver.

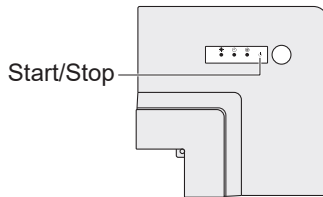
- The OPERATION lamp is lit.
- Auto operation starts. If Auto operation is not possible, the unit starts cooling if the room temperature at the time is 24 °C or higher; otherwise, the unit starts heating.
- The operation stops if you press [Emergency Operation] (⏻) again.

#### Note

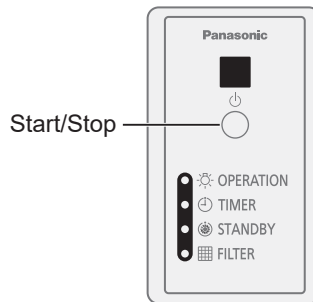
- If non-cooling/heating free type is being used, it will beep twice and the operating lamp will light up on the display; if the timer and standby lamps blink alternately, a conflict between the heating and cooling exists, so the unit cannot operate in the desired mode. (On models that do not have an Auto function, even if Auto is selected, it works in the same way.)
- When the local operation is disabled by a central control device or similar cause, and if the Start/Stop (⏻), Fan speed (🌀), Flap (🌀), Temperature setting (▲/▼), Mode select (📄) or Energy saving (📄) button is pressed, the unit will beep 5 times and the change will not be made.

## CZ-RWRU3 / CZ-RWRC3

CZ-RWRU3  
CZ-RWRU3W



CZ-RWRC3





### 8-2-1-11. Miscellaneous Settings














A variety of changes can be made to settings, depending on the indoor unit being used.

#### Operation mode indicator, time display (24 hour, AM/PM), heating maximum temperature

- These settings are saved in nonvolatile memory in the remote controller, so even when its batteries are changed, the settings do not have to be made again.
- First check the display of the remote controller when the unit is stopped and then make any desired settings.

#### How to Operate

- While holding down the buttons below, the remote controller's display changes every time  is pressed.
- Whatever is being displayed when you release  is set.


Setting Item	Operation Button	Setting Content	Remote Controller Display
Remote controller operation mode display setting when  is pressed	Press  while pressing 	Heat Pump (with Auto)	
		Heat Pump (without Auto)	
		Dedicated air conditioner	
Clock display setting	Press  while pressing 	24-hour	
		AM/PM	
Max possible temperature setting in the Heat mode	Press  while pressing 	Maximum heating temperature range is 26 °C – 30 °C	

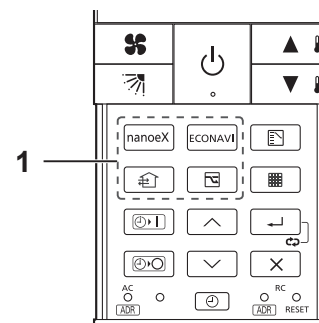
### 8-2-1-12. Button Control





You can enable or disable the following buttons for some indoor units.

#### nanoe™ X, ECONAVI, Ventilation, Energy saving

#### 1. Press the button for desired setting for 4 seconds or longer.




- You can toggle between enable and disable each time you press the button for 4 seconds or longer.
- “” is displayed when you press a disabled button, and the function cannot be used.

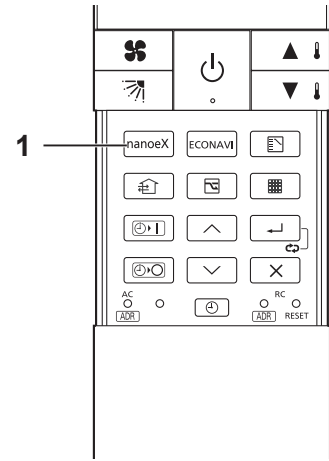


Buttons	Setting content
	Enabling or disabling the button for nanoe™ X.
	Enabling or disabling the button for ECONAVI.
	Enabling or disabling the button for ventilation.
	Enabling or disabling the button for energy saving.

### 8-2-1-13. nanoe™ X Setting

#### 1. Press during operation.




- You can toggle between ON and OFF each time you press .
- “nanoeX” is displayed when this setting is ON.
- When the nanoe™ X setting is ON, “nanoe” (atomised water particle) is released from the indoor unit while in operation (Cool, Dry, Heat, Fan, Auto).
- If the receiver emits 1 short beep followed by 1 long beep after pressing , the indoor unit does not support this function. See the section “8-2-1-12. Button Control” on page 8-2-1-10 for how to enable or disable the button.
- “” is displayed if the function is not available.

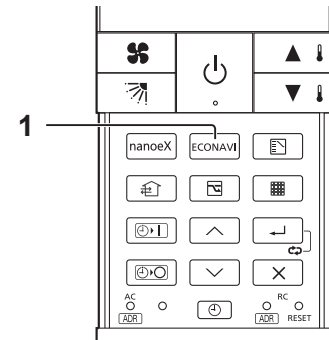


### 8-2-1-14. ECONAVI Setting

(ECONAVI can be set using the separately sold ECONAVI panel or by connecting the holder on the wall.)



#### 1. Press during operation.

- You can toggle between ON and OFF each time you press .
- “ECONAVI” is displayed when this setting is ON. \*
- The ECONAVI sensor detects human activity and conserves energy based on the activity level.
- Even when target temperature is changed through the ECONAVI function, the set temperature shown in the remote controller does not change.
- When operating more than 1 indoor unit, the energy-saving effect may be reduced depending on the room condition.
- If the receiver emits 1 short beep followed by 1 long beep after pressing , the indoor unit does not support this function. See the section “8-2-1-12. Button Control” on page 8-2-1-10 for how to enable or disable the button.
- “” is displayed if the function is not available.
- \* “ECONAVI” is not displayed in Fan mode.






### 8-2-1-15. Ventilation Setting

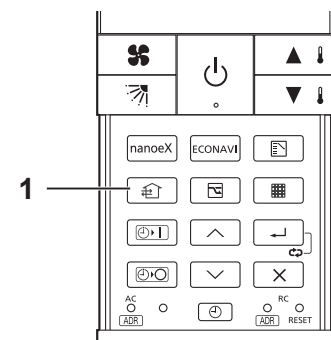
(When connected to an aftermarket fan)

 button is disabled as the factory setting. Enable the  button if you have connected the ventilation fan.

(See the section “8-2-1-12. Button Control” on page 8-2-1-10.)





#### 1. Press .

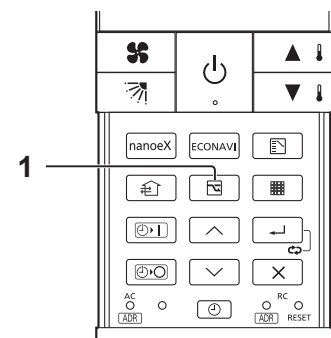
- You can toggle between ON and OFF each time you press .
- “” appears on the display of the remote controller when the fan is operating.
- When the air conditioner is started or stopped, the fan starts or stops at the same time.
- “” is displayed if the function is not available.



### 8-2-1-16. Energy Saving Setting

#### 1. Press during operation.



- You can toggle between ON and OFF each time you press .
- “” is displayed when this setting is ON.
- The energy saving operation restricts the maximum current value, resulting in decreased cooling/heating performance. (If the current of outdoor units does not reach the peak due to low load operation, the current value is not restricted.)
- If the receiver emits 1 short beep followed by 1 long beep after pressing , the indoor unit does not support this function. See the section “8-2-1-12. Button Control” on page 8-2-1-10 for how to enable or disable the button.
- “” is displayed if the function is not available.




### 8-2-1-17. Temperature Automatic Return






You can restore the changed temperature to the originally set temperature automatically after a specified time elapses.

- Set the time and temperature for each operation mode.

**1. Press  and  at the same time for 4 seconds or longer.**




- “” starts blinking and the setting screen is displayed.





**2. Press  to select the operation mode, then press .**

- Every time you press  to switch between “Dry  / Cool  → Heat  → Auto ”, the buzzer sounds from the corresponding receiver.
- When not set: 1 short beep
- When already set: 2 short beeps

**3. Press  /  to set the time to return to the set temperature.**



- Setting range: 10 to 240 min (by the 10 min)

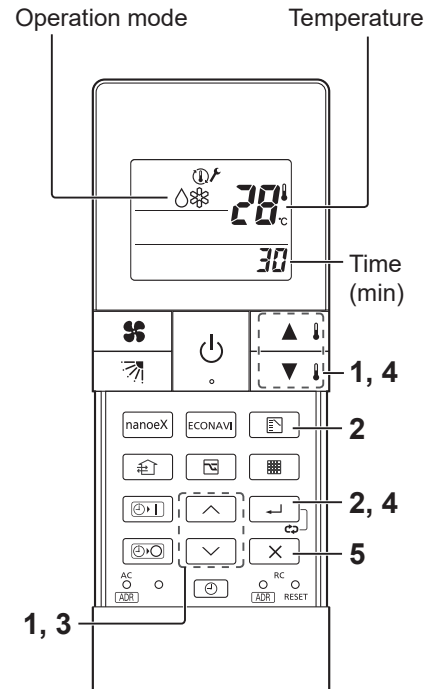
**4. Press  /  to set the temperature, then press .**

	MAX (°C)	MIN (°C)
Auto 	27	17
Heat 	30	16
Dry  / Cool 	30	18

- The temperature range that can be set varies depending on the model.

**5. Press .**

- You can return to Step 2 to continue setting if you press  instead of .




### Changing the setting

Perform Step 1 to 5 noted above as you did when setting.

### Cancelling the setting

**1. Press  and  at the same time for 4 seconds or longer.**

**2. Press  to select the operation mode, then press  for 4 seconds or longer.**


- The receiver emits 1 short beep.
- Press  for 10 seconds or longer to cancel settings for all operation modes.

Note

- Press  to stop operation in the middle.

## 8-2-1-18. Troubleshooting

Before requesting service, please check the followings.

Problem	Cause	Solution
The unit doesn't work even when  is pressed on the remote controller.	The power to the indoor unit is not ON.	Make sure the power to the indoor unit is ON.
	Are the remote controller's batteries dead?	Change the batteries.
	Is there a mismatch between the display lamp and cooling/heating or is it set to something other than Auto? (The operating lamp stays lit, while the timer lamp and the standby lamp blink alternately.)	Change the operating mode.
	Do the addresses match one another?	Check the addresses of the receiver and the remote controller. (See page 8-2-1-8)
The air conditioner starts and stops on its own.	Has the timer been set to repeat?	Check the timer settings. (See page 8-2-1-5)
Although the unit is for air conditioning only, either Auto or Heat is indicated in the display.		Make settings to the remote controller's operation mode display. (See the section "8-2-1-11. Miscellaneous Settings" on page 8-2-1-10)
After the batteries are put in the remote controller, even when it is operated, the display does not change.		Press the RC reset button on the remote controller. (See page 8-2-1-3)
The timer cannot be set.		Make the settings when the remote controller is in Operation Display. (See page 8-2-1-5)

If the problem persists even after you check the foregoing items, stop the unit, disconnect the power to the indoor unit and contact the dealer where the product was purchased with the model number and problem you are having.

As it is dangerous, under no circumstances should you undertake repairs yourself.

Further, when the receiver's lamps are blinking; please contact your retailer with that information.

## Specifications

### CZ-RWS3

<b>Model No.</b>	CZ-RWS3
<b>Dimensions</b>	(H) 165 mm × (W) 59 mm × (D) 22 mm
<b>Weight</b>	100 g (Batteries and remote control holder are not included)
<b>Temperature / Humidity range</b>	0 °C to 40 °C / 20 % to 80 % (No condensation) *Indoor use only
<b>Power Source</b>	Two LR03 size batteries

### CZ-RWRU3 / CZ-RWRU3W

<b>Model No.</b>	CZ-RWRU3 / CZ-RWRU3W
<b>Dimensions</b>	(H) 29.7 mm × (W) 211.8 mm × (D) 211.8 mm
<b>Weight</b>	160 g
<b>Temperature / Humidity range</b>	0 °C to 40 °C / 20% to 80% (no condensation) *Indoor use only.
<b>Power Source</b>	DC16 V (supplied from indoor unit)

### CZ-RWRC3

<b>Model No.</b>	CZ-RWRC3
<b>Dimensions</b>	(H) 120 mm × (W) 70 mm × (D) 20 mm
<b>Weight</b>	75 g
<b>Temperature / Humidity range</b>	0 °C to 40 °C / 20 % to 80 % (No condensation) *Indoor use only.
<b>Power Source</b>	DC16 V (supplied from indoor unit)

## **8-3. Wiring for the Receiver**

### **8-3-1. Common to All Models**

#### **1. Installation Location for the Receiver**

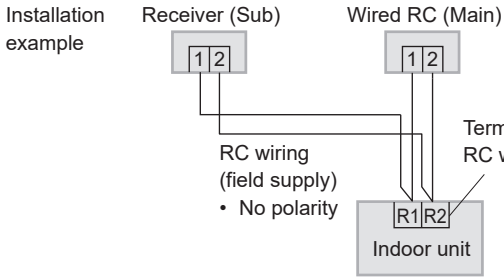
- The wireless (infrared) remote controllers use a very weak infrared light for its signal, which can result in the signal not being received because of the following influences, so take care in where the unit is installed.
- Inverter or rapid-start type fluorescent lights. (Models without glow lamps)
- Plasma display or LCD televisions.
- Direct sunlight or other sources of bright light.
- Do not bundle together with the power source wiring or store in the same metal tube. Operation error may occur.
- Be careful not to connect cables to other terminals of indoor units (e.g. power source wiring terminal). Malfunction may occur.
- Avoid the following locations for installation.
  - Location where condensation occurs
  - Location where voltage fluctuation frequently occurs
  - Location where there is a machine producing electromagnetic radiation

#### **2. Installation location for the Wireless (Infrared) Remote Controller**

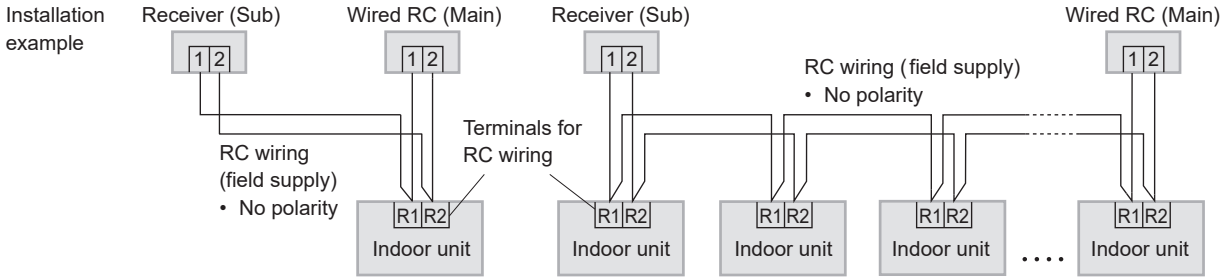
- If a remote controller is to be operated from a remote control holder that is hung on a wall, turn on the lights in the room as well as any electrical appliances and then check to make sure the air conditioner works with the remote controller in the location where it will be installed. If it works, continue with installation.
- If the main sensor is to be switched from the indoor unit to a remote controller, pay attention to the following when installing.
  - Locate where no warm or cold air will affect it.
  - Locate in a place free from direct sunlight.
  - Locate where it will not be affected by any other heat/cold source.

## Installation when setting Main/Sub for the remote controller and the receiver

### ■ Using 1 indoor unit



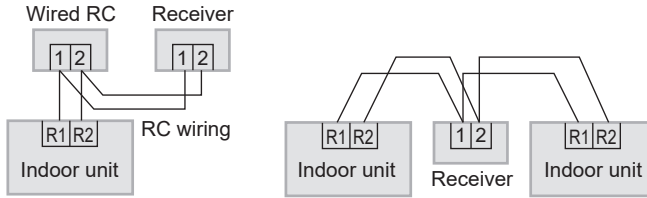
### ■ Using more than 1 indoor unit



After installation, according to the “Settings” section, set one to [Main] and the other to [Sub].  
Setting the wired remote controller to [Main] is recommended.

### Attention

- Multiple wireless/(infrared) remote controllers cannot be used simultaneously for a single indoor unit.
  - Be careful not to connect cables to other terminals of indoor units (e.g. power source wiring terminal). Malfunction may occur.
  - Do not bundle together with the power source wiring or store in the same metal tube. Operation error may occur.
  - If noise is induced to the unit power supply, attach a noise filter.
- \* Wiring shown below is prohibited.

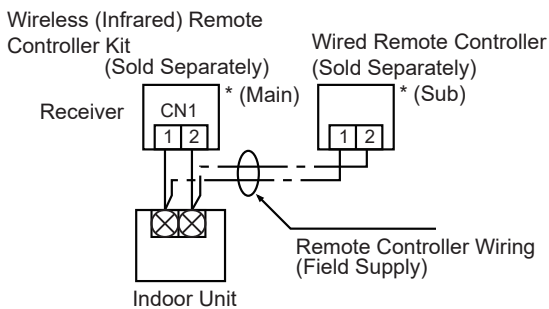


### NOTE

The remote controller and the receiver can be connected to any indoor unit for operation.

### When 1 indoor unit is operated by 2 remote controllers:

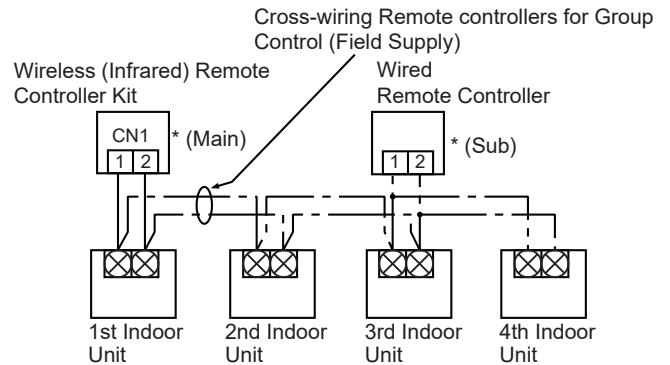
- \* Either of the remote controllers can be set to main/sub.



- Use wiring of 0.5 mm<sup>2</sup> to 2 mm<sup>2</sup> for field supply.
- Use a total wire length of no more than 400 m.

### If a group of units are to be controlled by 2 remote controllers:




- \* Main/sub remote controllers will work regardless of which indoor unit they are installed.



- Use wiring of 0.5 mm<sup>2</sup> to 2 mm<sup>2</sup> for field supply.
- Make the total wire length when cross-wiring a group no more than 200 m.

## 8-3-2. CZ-RWRU3, CZ-RWRU3W

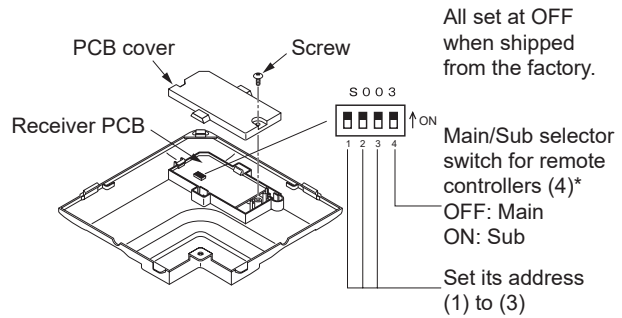
### 1. Accessories

Supplied accessories		
Clamper (1) 	Operating Instructions (1) 	Installation Instructions (1) 

### 2. Settings








#### Setting for Receiver

- Check the settings of the [S003] DIP switch on the receiver's PCB.
- \* Remove the cover from the receiver when performing the PCB settings.
- \* When using the infrared remote controller and the wired remote controller in combination, set the wired remote controller to [Main].



#### Setting Address Switches

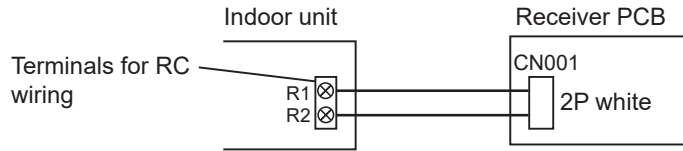
- When more than 1 receiver is installed in the same room, setting addresses prevents interference.
- For how to change addresses of wireless (infrared) remote controllers, see "Matching Up Addresses" of wireless (infrared) remote controllers on page 8-2-1-8.
- To change the receiver's address, remove the cover from the receiver's PCB and set No.1 to No.3 of the [003] DIP switch on PCB.

Remote Controller Address Display	Address <b>ALL</b>	Address <b>1</b>	Address <b>2</b>	Address <b>3</b>	Address <b>4</b>	Address <b>5</b>	Address <b>6</b>	ON/OFF States
Position of the receiver's address switch	Receipt is possible at all of the address positions							



### 3. Wiring the Receiver

#### • Wiring Diagram



#### How to Connect the Wires

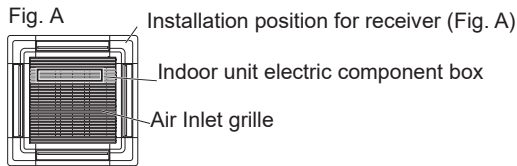
- Connect the wires from the receiver to the terminals for RC wiring on the indoor unit. (No polarity)

### 4. Installing the Receiver

- The receiver can be installed only on the corner shown in Fig. A. Consider the direction where the panel is attached to the indoor unit.

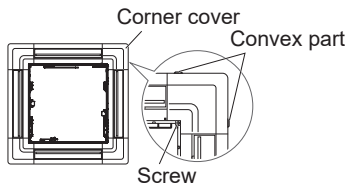
#### 1 Remove the air inlet grille

Indoor unit electric component box

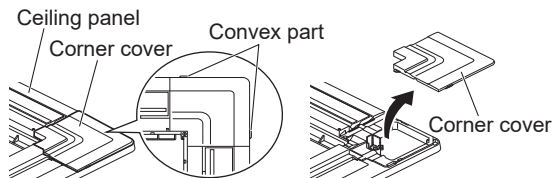


#### 2 Remove the corner cover

- ① Remove the screw fixing the corner cover.

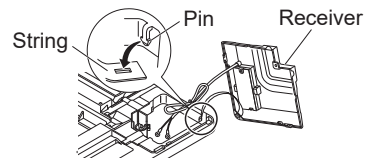


- ② Place a hand on both the right and left convex parts of the corner cover to remove it.



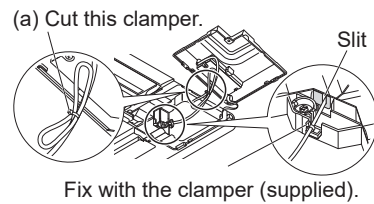
#### 3 Wire the receiver

- ① Hang the string of the receiver on the pin of the ceiling panel.



- ② Pass the wiring from the wireless receiver section into the slit. (See "Wiring for the receiver")
- ③ Fix the wiring with the clammer (supplied) while leaving enough length of wiring to remove the receiver.

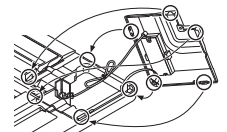
- When attaching the filter chamber, cut the clammer (a), and attach the receiver.



#### 4 Fix the receiver

- ① Fit the receiver to the ceiling panel so the 5 claws are properly set, and fix it with the removed screw.

- Make sure the wire is not caught.
- Refer to the installation instructions supplied with the panel.



## 5. Test Operation

**Preparation:** Turn on the circuit breaker of units and then turn the power on. After the power is turned on, infrared remote controller operation is ignored for approx. 1 minute because setting is being made. This is not malfunction. (Contents received while setting are disabled.)

- 1 Press and hold the emergency operation button for 10 seconds.
- 2 The indication lamps (OPERATION, TIMER, STANDBY) blink during test operation.
- 3 To finish test operation, press and hold the emergency operation button for 10 seconds.

### ATTENTION

- Do not use this mode for purposes other than the test operation. (To prevent overload of the units)
- Read the installation instructions supplied with the units.
- The test operation can be performed in Heat or Cool mode.
- Temperature cannot be changed.
- The test operation mode is automatically turned off in 60 minutes. (To prevent continuous test operation)
- Outdoor units do not operate for approx. 3 minutes after the power is turned on or operation is stopped.

### Self-diagnostics table and detected contents

The "Alarm Display" shown in the table below expresses the alarm contents displayed when the wired remote controller is connected. For how to handle the alarms, see sec2 "2-5. Contents of Remote Controller Switch Alarm Display" and sec5 "5-1. Contents of Remote Controller Switch Alarm Display"

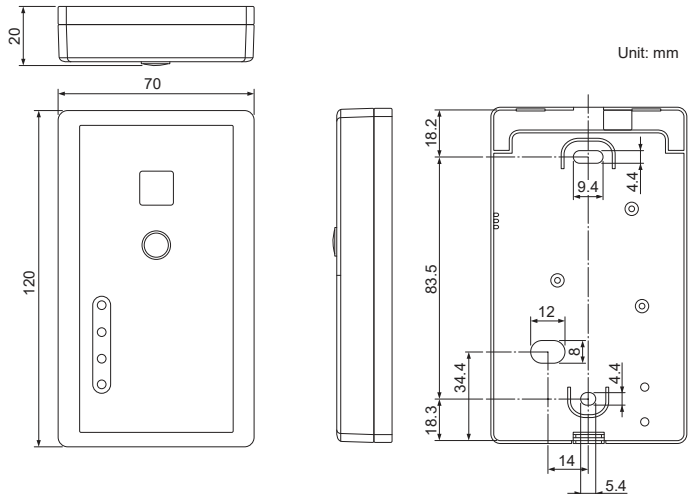
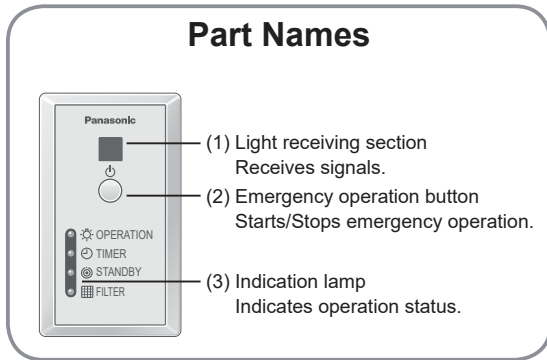
Detected contents	Alarm Display	Indication lamp on the receiver			
		OPERATION	TIMER	STANDBY	Blinking
Communication error in the remote controller circuit	E01-E03, E08-E14, E17, E18	⊙	●	●	
Communication error either in the in/outdoor operation line or the sub-bus of the outdoor unit	E04-E07, E15, E16, E19-E31	●	●	⊙	
Operation of indoor protection device	P01, P09-P14	●	⊙	⊙	Alternately
Operation of outdoor protection device	P02-P08, P15-P31	⊙	●	⊙	Alternately
Error in the indoor thermistor	F01-F03, F10-F11	⊙	⊙	●	Alternately
Error in the outdoor thermistor	F04-F09, F12-F28	⊙	⊙	○	Alternately
Error in the indoor EEPROM	F29	⊙	⊙	●	Simultaneously
Error in the outdoor EEPROM	F30, F31	⊙	⊙	○	Simultaneously
Error related to the compressor	H01-H31	●	⊙	●	
Error in indoor settings	L01-L03, L05-L09	⊙	●	⊙	Simultaneously
Error in outdoor settings	L04, L10-L31	⊙	○	⊙	Simultaneously
Error in the gas heat pump air conditioner	A01-A31	●	⊙	⊙	Simultaneously
Inconsistency in Cooling/Heating (Including an auto-temp setting for a model without auto-temp settings)		○	⊙	⊙	Alternately
Oil alarm (Same as operation of outdoor protection device)		⊙	●	⊙	Alternately
Auto addressing in progress (when it is performed with an infrared remote controller)		→ ⊙ → ⊙ → ⊙ → ⊙ ←			Sequentially
Test operation		⊙	⊙	⊙	Simultaneously

●: OFF ○: ON (Illuminated) ⊙: Blinking (0.5 seconds interval)

### 8-3-3. CZ-RWRC3

## Installation Instructions

## Dimensions



### Read before installation

This receiver must be installed by the sales dealer or installer. 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.

### Safety Precautions

We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructions or methods without using specified parts. Malfunctions that occurred due to the unauthorised installation methods are not covered by the product warranty.

- Read the installation instructions supplied with indoor units as well.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- When relocating or repairing this receiver, provide the Installation Instructions to the servicing personnel.
- Do not clean inside the receiver by users. Engage authorised dealer or specialist for cleaning.

**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.

### WARNING

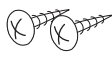
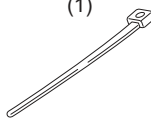

- Turn off the circuit breaker of the units before installation.
- This receiver shall be installed in accordance with National Wiring Regulations.
- Connect and fix the specified cables for wiring securely.
- Do not allow the connection to be exposed to the external force of the cables.
- Select an installation location which is rigid and strong enough to support or hold the receiver, and select a location for easy maintenance.
- This receiver must not be modified or disassembled under any circumstances. Modified or disassembled receiver may cause fire, electric shock or injury.

### CAUTION

- Do not use the receiver at the following locations.
  - Location where flammable gases, etc. may leak
  - Location where corrosive gases, etc. may leak
  - Location with lots of water or oil droplets (including machine oil)
  - Location where droplets of organic solvents spread
  - Location where acidic or alkaline solutions or special sprays are frequently used
- Do not wash with water.
- Do not operate with wet hands.

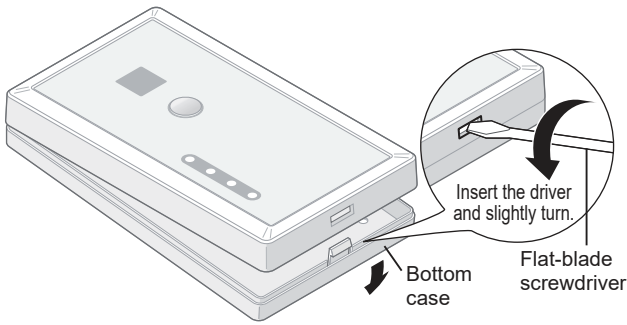
**NOTICE** The English text is the original instructions. Other languages are translation of the original instructions.

### 1. Accessories

Supplied accessories		
Wood screw M4 × 15.5 (2) 	Clamper (1) 	Installation Instructions (1) 

## 2. Installing the Receiver

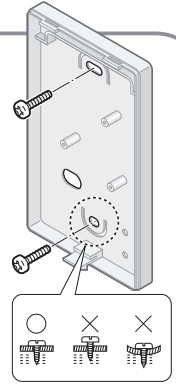
### 1 Remove the bottom case.



### Attention

#### Mounting the bottom case

- Tighten the screws securely until the screw heads touch the bottom case. (Otherwise, loose screw heads may hit the PCB and cause malfunction when mounting the top case.)
- Do not over-tighten the screws. (The bottom case may be deformed, resulting in fall of the unit.)



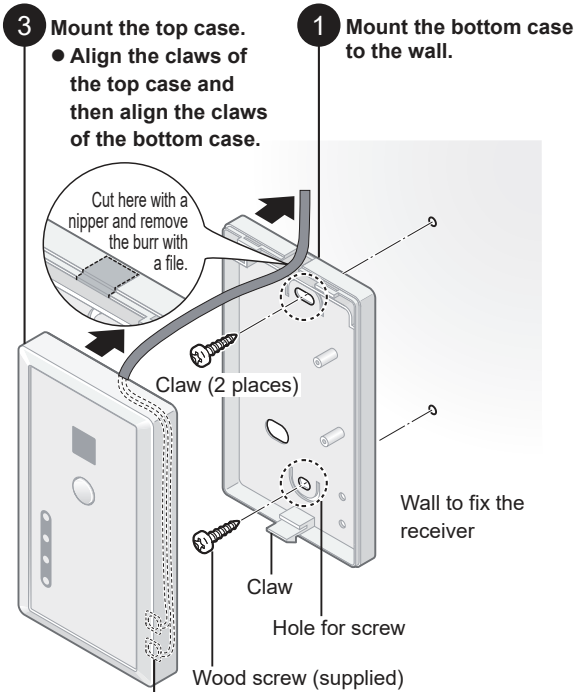
#### Connecting the remote controller wiring

- Arrange the wires as shown in the illustration for 2 in step 2, avoiding unnecessary wires being stored in the case. (Caught wires may destroy the PCB.)
- Avoid wires touching parts on the PCB. (Caught wires may destroy the PCB.)

### 2 Mount to the wall.

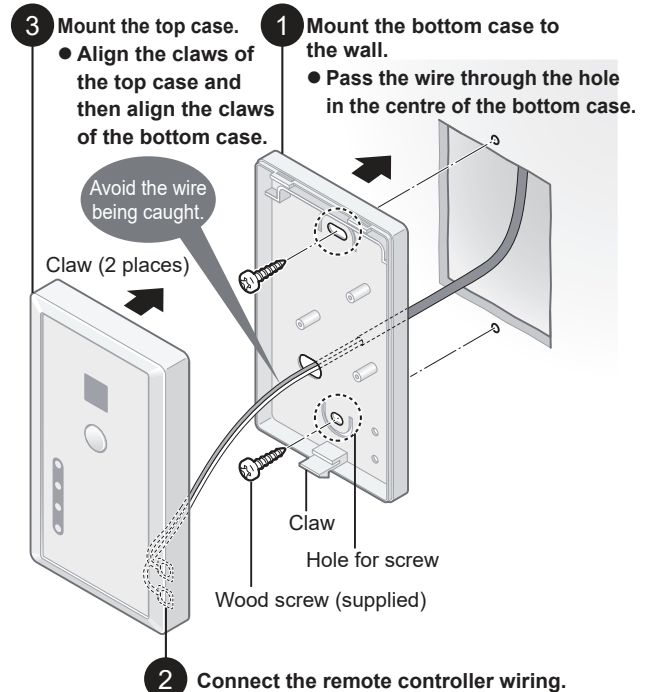
#### Exposed type

Preparation: Make 2 holes for screws using a driver.

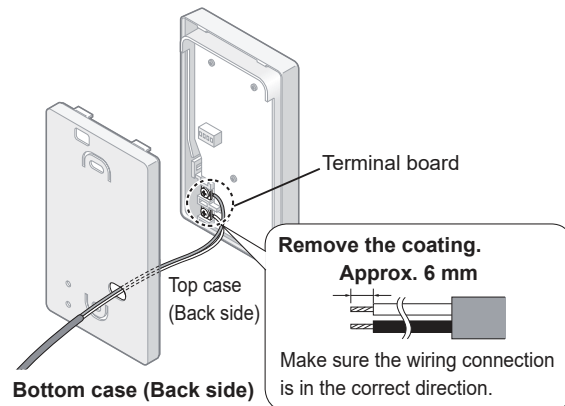
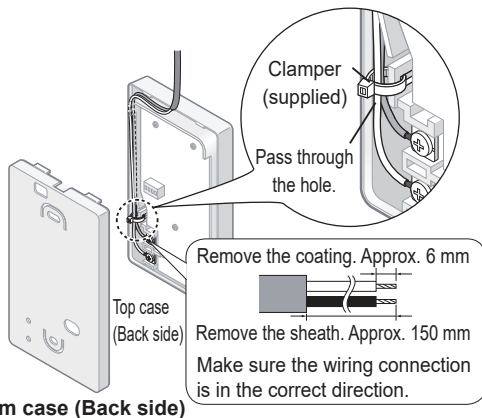


#### Embedded type

Preparation: Make 2 holes for screws using a driver.



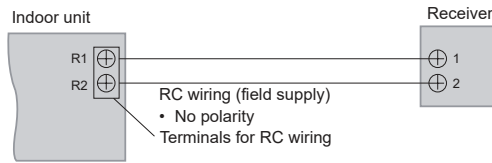
- 2 Connect the remote controller wiring.**
- Arrange the wires along the groove of the case.



### 3. Wiring the Receiver

## Wiring for the receiver

- **Wiring diagram**
- **Type of wiring**  
Use cables of 0.5 to 1.25 mm<sup>2</sup>.
- **Total wire length:** 400 m or less  
(The wire length between indoor units should be 200 m or less.)
- **Number of connectable units**  
Remote controller and receiver: Max. 2, Indoor unit: Max. 8

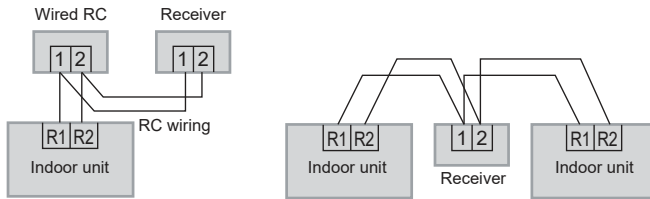


### Attention

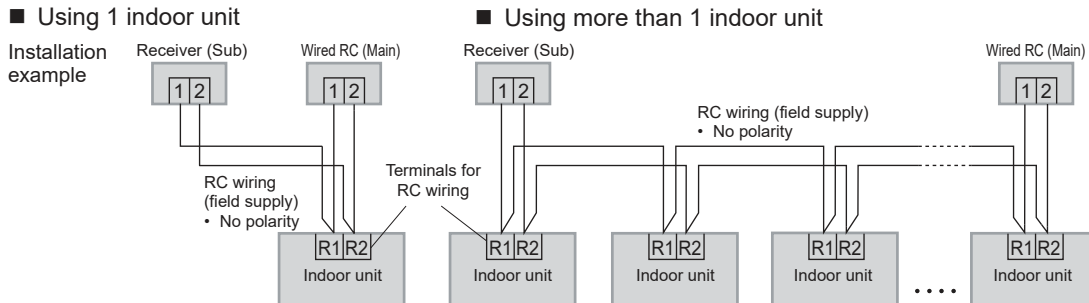
- Be careful not to connect cables to other terminals of indoor units (e.g. power source wiring terminal). Malfunction may occur.
- Do not bundle together with the power source wiring or store in the same metal tube. Operation error may occur.
- If noise is induced to the unit power supply, attach a noise filter.

- For the RC wiring of field supply, please use insulated wires with sheath. The insulation thickness should be at least 1 mm.
- 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.

\*Wiring as shown below is prohibited.



### Installation when setting Main/Sub for the remote controller and the receiver



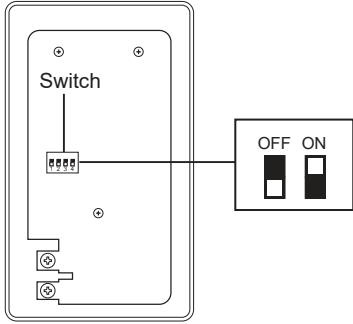
After installation, according to the "Main/Sub setting" in the "Setting" section, set one to [Main] and the other to [Sub].  
Setting the wired remote controller to [Main] is recommended.

**Note** The remote controller and the receiver can be connected to any indoor unit for operation.

#### 4. Setting Address Switches

- Main/Sub setting
- Address setting

Remove the top case of the receiver for setting.



**Main/Sub setting**

- Use this to set Main/Sub for the remote controller and the receiver.
- Set one to [Main] and the other to [Sub].
- Factory default: [Main]
- It is recommended to set the wired remote controller to [Main].

Main/Sub	MAIN	SUB
<b>Main/Sub switch position</b>	 1 2 3 4	 1 2 3 4

**Address setting**

- When more than 1 receiver is installed in the same room, setting addresses prevents interference.
- For how to change addresses of wireless (infrared) remote controllers, see “Matching Up Addresses” of wireless (infrared) remote controllers on page 8-9.

Wireless (infrared) remote controller address display	Address	Address	Address	Address	Address	Address	Address
	<b>ALL</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Address switch position	Receiving is possible at all address positions.						
		1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4

#### 5. Test operation

Preparation : Turn on the circuit breaker of units and then turn the power on. After the power is turned on, remote controller operation is ignored for approx. 1 minute because setting is being made. This is not malfunction. (Contents received while setting are disabled.)

1. To start test operation, press and hold the emergency operation button for 10 seconds.
2. The indication lamps (OPERATION, TIMER, STANDBY) blink during test operation.
3. To finish test operation, press and hold the emergency operation button for 10 seconds.

**Attention**

- Do not use this mode for purposes other than the test operation. (To prevent overload of the units)
- Read the installation instructions supplied with the units.
- Any of the Heat, Cool and Fan operations can only be performed.
- Temperature cannot be changed.
- The test operation mode is automatically turned off in 60 minutes. (To prevent continuous test operation)
- Outdoor units do not operate for approx. 3 minutes after the power is turned on or operation is stopped.

**Self-diagnostics table and detected contents**

● The “Alarm Display” shown in the table below expresses the alarm contents displayed when the wired remote controller is connected. For how to handle the alarms, see Section 2 “2-5. Contents of Remote Controller Switch Alarm Display” and Section 5 “5-1. Contents of Remote Controller Switch Alarm Display”.

Detected contents	Alarm Display	Indication lamp on the receiver			
		OPERATION	TIMER	STANDBY	Blinking
Communication error in the remote controller circuit	E01–E03, E08–E14, E17, E18	□	●	●	
Communication error either in the in/outdoor operation line or the sub-bus of the outdoor unit	E04–E07, E15, E16, E19–E31	●	●	□	
Operation of indoor protection device	P01, P09–P14	●	□	□	Alternately
Operation of outdoor protection device	P02–P08, P15–P31	□	●	□	Alternately
Error in the indoor thermistor	F01–F03, F10–F11	□	□	●	Alternately
Error in the outdoor thermistor	F04–F09, F12–F28	□	□	○	Alternately
Error in the indoor EEPROM	F29	□	□	●	Simultaneously
Error in the outdoor EEPROM	F30, F31	□	□	○	Simultaneously
Error related to the compressor	H01–H31	●	□	●	
Error in indoor settings	L01–L03, L05–L09	□	●	□	Simultaneously
Error in outdoor settings	L04, L10–L31	□	○	□	Simultaneously
Inconsistency in Air/Heat (Including an auto-temp setting for a model without auto-temp settings)		○	□	□	Alternately
Oil Alarm (Same as operation of outdoor protection device)		□	●	□	Alternately
Test operation		□	□	□	Simultaneously

●: OFF ○: ON (Illuminated) □: Blinking (0.5 seconds interval)

### 8-3-4. Common to All Models

#### Setting Up Remote Controller Functions

The functions of the wireless (infrared) remote controller can be set on site.

(These settings are saved in nonvolatile memory in the remote controller. Therefore, the settings do not revert to the defaults even when its batteries are changed.)

#### NOTE

Only service personnel should make the settings because the operation of the air conditioner may be affected, depending on the settings made.

Furthermore, making changes to these settings may cause actual operation to deviate from what is printed in the Operating Instructions, so be sure to fully explain this to the customer.

#### Infrared Remote Controller

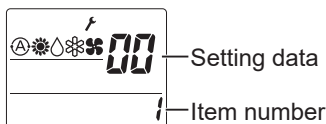
#### CZ-RWS3

### Miscellaneous Settings

- These settings are saved in nonvolatile memory in the remote controller, so even when its batteries are changed, the settings do not have to be made again.
- Furthermore, making changes to these settings may cause actual operation to deviate from what is printed in the Operating Instructions, so be sure to fully explain this to the customer.
- Do not change any settings other than those items in table below.

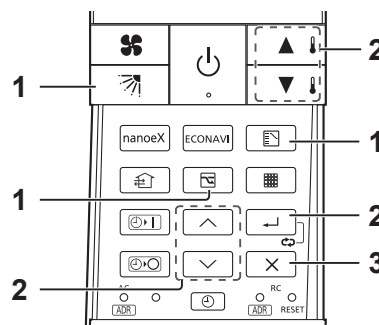
1. Press , and at the same time for 4 seconds or longer when the unit is stopped (displaying the current time only).

- “” starts blinking and the setting screen is displayed.



2. Press to select item number, press to select setting data, and press .

3. Press .



Item Number	Setting item	Setting data	Factory setting	Check
1	Operation Mode <sup>1</sup>	00:  /  /  /  /  / 01:  /  /  /  /  / 02:  /  /  /  /  / 03:  /  /  /  /  / 04:  /  /  /  /  / 05:  /  /  /  /  /	00:  /  /  /  /  /	
2	Flap Display	00: 5 levels (Cool in 5 levels) + Swing + Stop 01: 5 levels (Cool in 3 levels) + Swing + Stop 02: 5 levels (Cool in 3 levels) + Swing 03: Swing 04: No switchable function	00: 5 levels (Cool in 5 levels) + Swing + Stop	
3	Select Fan Speed	00: 5 levels (1 to 5, Auto) 01: 3 levels (Low (1), Medium (3), High (5), Auto) 02: 3 levels (Low (1), Medium (3), High (5)) 03: Low (1), Medium (3) 04: No switchable function	00: Speed 5 (1 to 5, Auto)	
4	Temperature Display	00: °C 01: °F	00: °C	
5	Clock Display	00: 24-hour 01: AM/PM	00: 24-hour	
6	Ventilation Fan Setting <sup>2</sup>	00: Off 01: On	00: Off	
7	Cool Temp Max	5 – 35°C	30	
8	Cool Temp Min	5 – 35°C	18	
9	Heat Temp Max	5 – 35°C	30	
10	Heat Temp Min	5 – 35°C	16	
11	Dry Temp Max	5 – 35°C	30	
12	Dry Temp Min	5 – 35°C	18	
13	Auto Temp Max	5 – 35°C	27	
14	Auto Temp Min	5 – 35°C	17	
18	Energy Saving Setting <sup>2</sup>	00: Off 01: On	01: On	
19	ECONAVI Setting <sup>2</sup>	00: Off 01: On	01: On	
20	nanoE™ X Setting <sup>2</sup>	00: Off 01: On	01: On	

<sup>1</sup> Set to [02: / / / / / ] or [03: / / / / / ] if you are using the unit only for cooling.







<sup>2</sup> Press the function setting button for 4 seconds or longer while current time is displayed to switch the function On/Off.

#### Note

Make sure to fill the setting status in the check column after making changes to these settings.

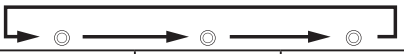
# Auto Address

Set the Auto Address for each O/D unit no. (outdoor unit number) Select the O/D unit no. for Auto Address.

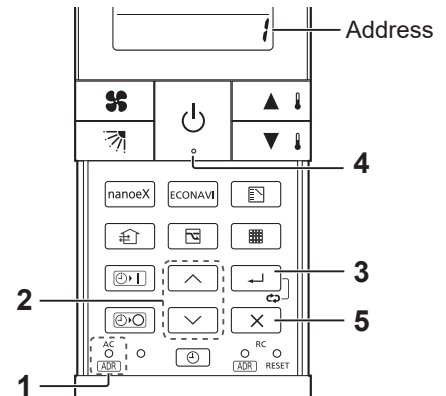
1. Press  for 4 seconds or longer.
  - “  ” starts blinking and the setting screen is displayed.
2. Press   to select the unit number (O/D unit no.) from 1 to 30.
3. Press  to set the Auto Address.
4. Press  to check the Auto Address status.
 


(See the following table for the Auto Address status.)

  - Proceed to step 5 when the status is “Completion” or “Error” .
  - If “Running” keeps for 10 minutes or longer, check the unit number.

Auto Address Status	Buzzer of the receiver	Indication lamp on the receiver		
		OPERATION	TIMER	STANDBY
Running	2 times			
Completion	1 time	-	-	-
Error	5 times	●	●	◎

● : OFF, ○ : ON (Illuminated), ◎ Blinking (0.5 seconds interval)



5. Press  for 4 seconds or longer to exit the Auto Address setting.
  - Auto Address setting is canceled while running or error occurring.
  - Set the Auto Address again after resolve the error cause if an error occurs.

### Attention

- Set Auto address after all units are turned on and 90 seconds or more have passed.
- Operate the units after Auto address is set and 90 seconds or more have passed.



