

FOUR WAY CASSETTE TYPE AIR CONDITIONERS INSTALLATION INSTRUCTIONS

SAFETY PRECAUTIONS

- Read the following "SAFETY PRECAUTIONS" carefully before installation.
This installation manual must be used together with another installation manual incorporated in applicable outdoor unit as complete full set of instructions.
Confirm the type of gas used before installation.
Electrical work must be installed by a licensed electrician.
The caution items stated here must be followed because these important contents are related to safety.

WARNING icons: This indication shows the possibility of causing death or serious injury.
CAUTION icons: This indication shows the possibility of causing injury or damage to properties only.
Items to be followed are classified by the symbols:
Symbol with white background denotes item that is PROHIBITED.
Symbol with dark background denotes item that must be carried out.

- Carry out test running to confirm that no abnormality occurs after the installation.
This appliance is not intended for accessibility by the general public.

WARNING

- Do not use means to accelerate the defrosting process or to clean...
Do not install outdoor unit near handrail of veranda.
Do not use unspecified cord, modified cord, joint cord or extension cord.
Do not tie up the power supply cord into a bundle by band.
Do not insert your fingers or other objects into the unit.

WARNING

- Do not use means to accelerate the defrosting process or to clean...
Do not install the air conditioner in such circumstances where cutting oil mist or iron powder exist especially in factories, etc.
Avoid places where inflammable gas is generated, flows-in, contaminated, or leaked.
Avoid places where sulphurous acid gas or corrosive gas can be generated.
Avoid places near high frequency generators.

INSTALLATION OF INDOOR UNIT

- This air conditioner uses a drain up motor. Horizontally install the unit using a level gauge.
CEILING OPENING DIMENSIONS AND HANGING BOLT LOCATION
The paper model for installation expand or shrink according to temperature and humidity.
Caution During the installation, care must be taken not to damage electric wires.

- The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
Be sure to discuss the ceiling drilling work with the workers concerned.

CAUTION

- Do not install the unit in a place where leakage of flammable gas may occur.
Prevent liquid or vapor from entering sumps or sewers since vapor is heavier than air and may form suffocating atmosphere.
Do not install this appliance in a laundry room or other location where water may drip from the ceiling, etc.

PRECAUTION FOR USING R32 REFRIGERANT

- The basic installation work procedures are the same as conventional refrigerant (R410A, R22) models.
Do not perform flare connection inside a building or dwelling or room, when joining the heat exchanger of indoor unit with interconnecting piping.
The appliance shall be stored, installed and operated in a well ventilated room with indoor floor area larger than 10m².

ATTACHED ACCESSORIES

Table with columns: Name, Qty, Name, Qty. Lists items like Remote Control, Battery, Pipe Size Reducer, etc.

Required Materials

- Read the catalog and other technical materials and prepare the required materials.
Applicable piping kit
Piping size
Pipe Size Reducer (CZ-MA1P) and Expander (CZ-MA2P) for Outdoor Multi Connection CS-250***, CS-260****.

Table A

Table with columns: Model, Capacity, Indoor A_min (m^2), 2.2m for mini cassette, 2.5m for mini cassette.

Table "A" only applicable for single split connection. In case of connection to outdoor multi inverter, refer to installation manual at outdoor unit.

1 SELECTING THE LOCATION FOR THE INDOOR UNIT

Diagram showing ceiling height and obstacle clearance. Provide a check port on the piping side ceiling for repair and maintenance.
1. The indoor unit must be within a maintenance space.
2. The indoor unit must be free from any obstacles in path of the air inlet and outlet, and must allow spreading of air throughout the room.
3. Installation height for indoor unit must be at least 2.5 m.

Warning

- The installation position must be able to support a load four times the indoor unit weight.
The indoor unit must be away from heat and steam sources, but avoid installing it near an entrance.
The indoor unit must allow easy draining.
The indoor unit must allow easy connection to the outdoor unit.
Place the indoor unit according to the height from the ceiling shown in the illustration below.

Note

- Thoroughly study the following installation locations.
In such places as restaurants and kitchens, considerable amount of oil steam and flour adhere to the turbo fan, the fin of the heat exchanger and the drain pump, resulting in heat exchange reduction, spraying, dispersing of water drops, drain pump malfunction, etc.
In these cases, take the following actions:
Make sure that the ventilation fan for smoke-collecting hood on a cooking table has sufficient capacity so that it draws oily steam which should not flow into the suction of the air conditioner.
Make enough distance from the cooking room to install the air conditioner in such place where it may not suck in oily steam.

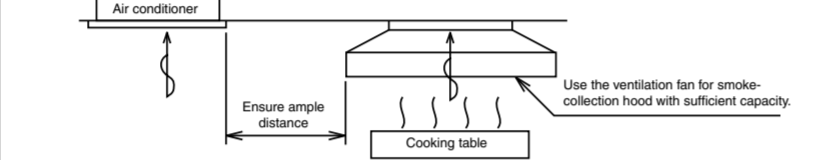


Table with columns: Model Name, Height in the ceiling. Lists models like MZ20, Z25, Z30, Z50, Z60 with height requirements.

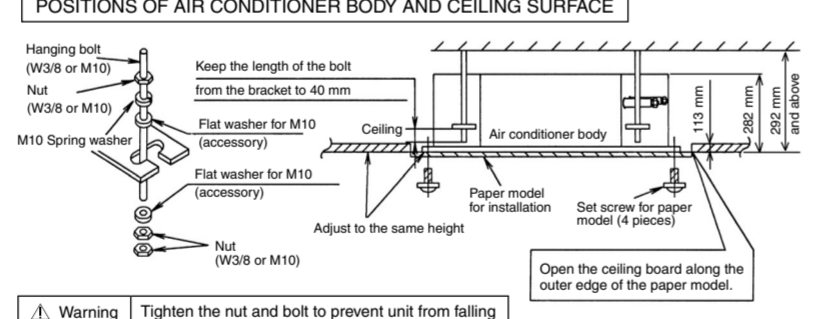
2 INSTALLATION OF INDOOR UNIT

Diagram showing indoor unit installation with hanging bolts and paper model.
Caution: Tighten the nut and bolt to prevent unit from falling.

CAUTION

- Do not install the unit in a place where leakage of flammable gas may occur.
Prevent liquid or vapor from entering sumps or sewers since vapor is heavier than air and may form suffocating atmosphere.
Do not install this appliance in a laundry room or other location where water may drip from the ceiling, etc.

POSITIONS OF AIR CONDITIONER BODY AND CEILING SURFACE



3 REFRIGERANT PIPING

- Refrigerant is charged to the outdoor unit. For details, see the manual for installation work of outdoor unit.
1. Brazing for piping.
2. When there is a lot of brazings for long piping, install a strainer midway of the piping.
3. Use clean copper pipe with inner wall surface free from dirt and dust.
4. Pour about 600-700cc of water in the drain pan of the indoor unit.
5. After deforming the pipe, align centers of the union fitting of the indoor unit and the piping, and tighten them firmly with wrenches.
6. Connect pipe to the service valve or ball valve which is located below the outdoor unit.
7. After completed the piping connection, be sure to check if there is gas leakage in indoor and outdoor connection.

Vacuum drying

Do not overtighten, overtightening may cause gas leakage.
Piping size and Torque table: 6.35 mm (1/4") [18 N·m (1.8 kgf·m)], 9.52 mm (3/8") [42 N·m (4.3 kgf·m)], 12.7 mm (1/2") [55 N·m (5.6 kgf·m)], 15.88 mm (5/8") [65 N·m (6.6 kgf·m)], 19.05 mm (3/4") [100 N·m (10.2 kgf·m)].

5 HEAT INSULATION

Caution: Be sure to perform heat insulation on the drain, liquid and gas piping. Imperfection in heat insulation work leads to water leakage.
1. Use the heat insulation material for the refrigerant piping which has an excellent heat-resistance (over 120°C).
2. Precautions in high humidity circumstance.
3. Wall seal: When the outdoor unit is installed on a higher position than the indoor unit, install the trap so as not to instill rain water into the wall by transmitting in piping.

4 INDOOR UNIT DRAIN PIPING

- During drain piping connection, be careful not to exert extra force on the drain port at the indoor unit.
The outside diameter of the drain connection at the indoor unit is 32 mm.
Piping material: Polyvinyl chloride pipe VP-25 and pipe fittings.
Be sure to perform heat insulation on the drain piping.
Heat insulation material: Polyethylene foam with thickness more than 8 mm (local supply).
Drain piping must have down-slope (1/50 to 1/100); be sure not to provide up-and-down slope to prevent reversal flow.
Be sure to check no air trap on drain hose and to ensure smooth water flow and no abnormal sound.

CAUTION

- The height of drain may be possible up to 750 mm.
When drain set piping, install as shown in the figure below.

CONNECT THE PIPING

Connecting The Piping to Indoor: For connection joint of all model (except R32 model). Please make flare after inserting flare nut (locate at joint portion of tube assembly) onto the copper pipe.
Connecting The Piping to Outdoor: Decide piping length and then cut by using pipe cutter. Remove burrs from cut edge. Make flare after inserting the flare nut (locate at valve) onto the copper pipe.
Connecting The Piping to Outdoor Multi: Decide piping length and then cut by using pipe cutter. Remove burrs from cut edge. Make flare after inserting the flare nut (locate at valve) onto the copper pipe.

Drain Test

The air conditioner uses a drain up motor to drain water. Use the following procedure to test the drain up motor operation.

- Connect the main drain pipe to exterior and leave it provisionally until the test comes to an end.
Feed water to the flexible drain hose and check the piping for leakage.
Be sure to check the drain up motor for normal operation and noise when electric wiring is complete.
When the test is complete, connect the flexible drain hose to the drain port.
Pour about 600-700cc of water in the drain pan of the indoor unit.
Press the drain pump test run on pcb to start the drain motor, and verify water drainage. (The drain motor will automatically stop after operating for about five minutes).

CHECK ITEMS

- Is there any gas leakage at flare nut connections?
Has the heat insulation been carried out at flare nut connections?
Is the connection cable being fixed to the terminal board firmly?
Is the connection cable being clamped firmly?
Is the drainage ok?
Is the Earth wire connection properly done?
Is the cooling/heating operation normal?
Is the indoor unit properly secured to the installation plate?
Is the power supply voltage complied with rated value?
Is there any abnormal sound?
Is the thermostat operation normal?
Is the remote control's LCD operation normal?

HAND OVER

- Teach the customer the operation and maintenance procedures, using the operation manual (air filter cleaning, temperature control, etc.)

As to parts to be sold separately

- With regards to installation of the parts sold separately, follow the installation manual which is provided with the parts sold separately.

6 CONNECTING THE CABLE TO THE INDOOR UNIT

Remove the mounting screw, remove the control box cover, and then connect the wires following the procedure given in the illustration.
Connection cable between indoor unit and outdoor unit shall be approved polychloroprene sheathed 4 x 1.5 mm² flexible cord, type designation 60245 IEC 57 or heavier cord.
Secure the connection cable onto the control board with the holder (clamped).
Ensure the colour of wires of outdoor unit and the terminal Nos. are the same to the indoor's respectively.
Earth wire shall be Yellow/Green (Y/G) in colour and longer than other AC wires for safety reason.

WARNING

- This equipment must be properly earthed.

WIRE STRIPPING, CONNECTING REQUIREMENT

Diagram showing wire stripping and connecting requirements. No loose strand when inserted. Indoor/outdoor terminal board 5 mm or more (gap between wires). Conductor fully inserted. Conductor not inserted. Conductor not inserted. RISK OF FIRE: JOINING OF WIRES MAY CAUSE OVERHEATING AND FIRE.

7 INSTALLATION OF DECORATIVE PANEL

- The decorative panel has its installation direction. Confirm the direction by displaying the piping side.
1. Remove the air inlet grille by moving the catchers to center.
2. Fitting the decorative panel: Temporarily secure the fixing screws (3 pcs.) before fitting the decorative panel. Place decorative panel on the screws (3 pcs.) before fitting, move decorative panel as illustrated and tighten all the screws (4 pcs.).

CAUTION

- Check before hand the height from the ceiling to the unit.
Only use the screws with the length of 35mm which is provided, to fix the decorative panel.
Do not use other screw which is longer it may cause damage to the drain-pan and other components.

AUTO SWITCH OPERATION

The following operations can be performed by pressing the "AUTO" switch.
1. AUTO OPERATION MODE: The Auto operation will be activated immediately once the Auto Switch is pressed.
2. TEST RUN OPERATION (FOR PUMP DOWN/SERVICING PURPOSE): The Test Run operation will be activated if the Auto Switch is pressed continuously for more than 5 sec. to below 8 sec.
Note: Enabling long-range remote control: To maintain emission limits, cabling interconnecting the HA terminal and subsequent opto-coupler, must be no more than 1.9 m in length.

REMO-CON NO. CHANGE IN REMOTE CONTROL

Table for Remo-Con No. Change: Lists codes for Open, Short, Long for J.A, J.B, Remo-Con No.

Note: Enabling long-range remote control

- To maintain emission limits, cabling interconnecting the HA terminal and subsequent opto-coupler, must be no more than 1.9 m in length.