12. Installation Instruction

■ Required Materials

- Read the catalog and other technical materials and prepare the required materials.
- Applicable piping kit

Applicable piping kit	Piping size	
	Gas	Liquid
CZ-3F5, 7BP	9.52 mm (3/8")	6.35 mm (1/4")
CZ-4F5, 7, 10BP	12.7 mm (1/2")	6.35 mm (1/4")
CZ-52F5, 7, 10BP	15.88 mm (5/8")	6.35 mm (1/4")

- Pipe Size Reducer (CZ-MA1P) and Expander (CZ-MA2P) for Outdoor Multi Connection CS-Z50******, CS-Z60******.
- Please refer to “Connect the piping”.

■ Other Items to be Prepared (Locally Purchased)

Product name	Remarks
Rigid PVC pipe	VP20 (outer diameter ø26); also sockets, elbows and other parts as necessary
Adhesive	PVC adhesive
Insulation	For refrigerant piping insulation : foamed polyethylene with a thickness of 8 mm or more. For drain piping insulation : foamed polyethylene with a thickness of 10 mm or more.
Indoor/outdoor connecting cable	4 x 1.5 mm^2 flexible cord, designation type 60245 IEC 57 (H05RN-F)
Hanging bolt related parts	Hanging bolts (M10) (4) and nuts (12), (when hanging the indoor unit)

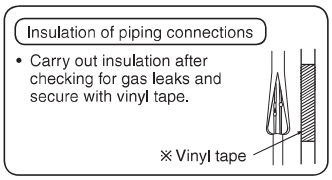
Table A

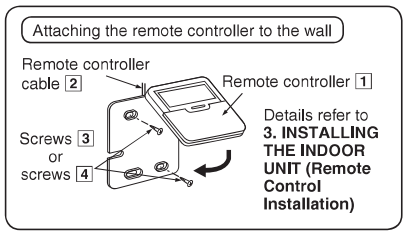
Model	Capacity	Indoor A_{min} (m^2)	
		2.2m for ducted	2.5m for ducted
Z25******	1.0HP	0.64	0.50
Z35******	1.5HP	0.71	0.55
Z50******	2.0HP	1.37	1.06
Z60******	2.25HP	1.37	1.06

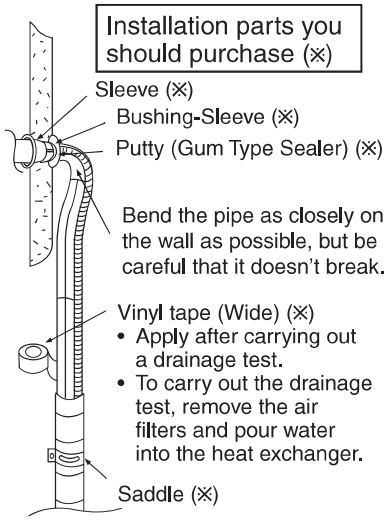
* Table “A” only applicable for single split connection.
* In case of connection to outdoor multi inverter, refer to installation manual at outdoor unit.

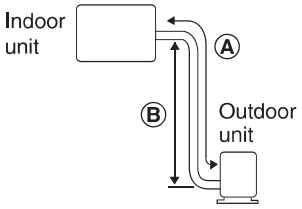
$$A_{min} = (M / (2.5 \times (LFL)^{(5/4)} \times h_0))^2$$

A_{min} = Required minimum room area, in m^2
M = Refrigerant charge amount in appliance, in kg
LFL = Lower flammable limit (0.306 kg/m^3)
h_0 = Installation height of the appliance: (2.2m for ducted is standard reference installed height)
(2.5m for ducted is minimum installed height given by manufacturer)









IMPORTANT

Begin the installation job from the “Indoor Unit” installation.

- This illustration is for explanation purposes only. The indoor unit will actually face a different way.

12.1 Indoor Unit

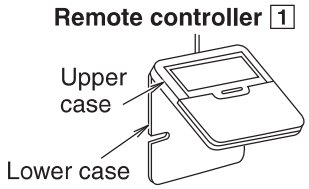
12.1.1 Selecting the Installation Location

Take into consideration the following contents when creating the blueprint.

■ Indoor unit installation location

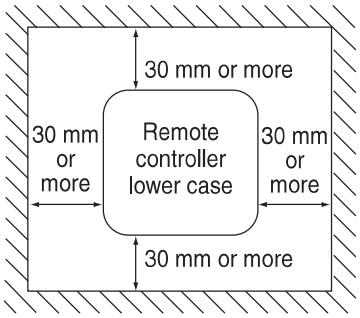
- Do not install the unit in excessive oil fume area such as kitchen, workshop and etc.
- The location should be strong enough to support the main unit without vibration.
- There should not be any heat or steam source nearby.
- Drainage should be easy. Avoid locating the drain port close to ditches (domestic wastewater).
- Avoid locations above entrances and exits.
- Do not block the air intake and discharge passages.
- Select the location that enables the cool and warm air to spread out to the entire room.
- Locate the indoor unit at least 1 m or more away from a TV, radio, wireless appliance, antenna cable and fluorescent light, and 2 m or more away from a telephone.
- Installation height for indoor unit must be at least 2.5m from floor.

> **⚠ CAUTION**
>
> Install the remote controller cable at least 5 cm away from electric wires of other appliances to avoid miss-operation (electromagnetic noise).



■ Remote control mounting location

- Allow sufficient space around the remote controller 1 as shown in the illustration at right.
- Install in a place which is away from direct sunlight and high humidity.
- Install in a flat surface to avoid warping of the remote controller. If installed to a wall with an uneven surface, damage to the LCD case or operation problems may result.
- Install in a place where the LCD can be easily seen for operation. (Standard height from the floor is 1.2 to 1.5 meters.)
- Avoid installing the remote controller cable near refrigerant pipes or drain pipes, else it will cause electrical shock or fire.

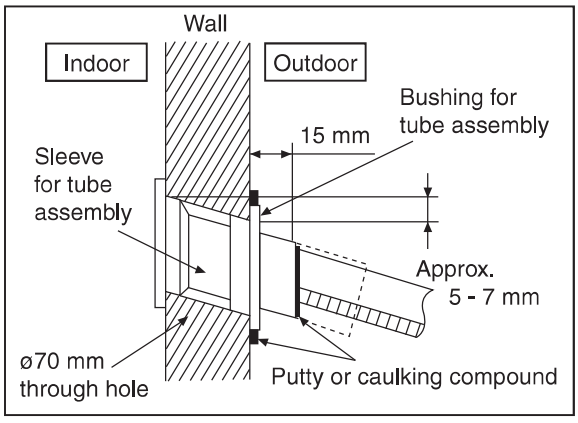


12.1.2 To Drill a Hole in the Wall and Install a Sleeve of Piping

1 Insert the piping sleeve to the hole.
2 Fix the bushing to the sleeve.
3 Cut the sleeve until it extrudes about 15 mm from the wall.

> **⚠ CAUTION**
>
> When the wall is hollow, be sure to use the sleeve for tube assembly to prevent pests from damaging the cables, e.g. mice biting the connection cable.

4 Finish by sealing the sleeve with putty or caulking compound at the final stage.



12.1.3 Installing the Indoor Unit (Installation Embedded in the Ceiling)

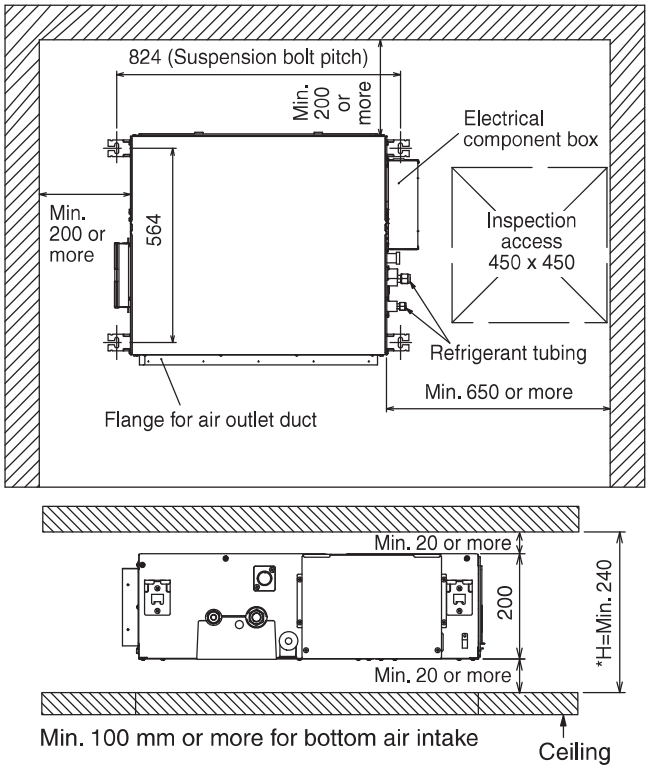
12.1.3.1 Preparation before installation

- Always provide sufficient entry and exit space to allow installation work, inspection and unit replacement.
- Waterproof the rear surface of the ceiling below the unit in consideration of water droplets forming and dropping.

⚠ CAUTION
When cooling operation is performed for an extended period under the following conditions, water droplets may form and drop. Attach locally purchased insulation (foamed polyethylene with a thickness of 5 mm or more) to the outside of the indoor unit before installing into the ceiling to improve heat insulation. • Locations with a dew point inside the ceiling of 23°C or more • Kitchens and other locations that produce large amounts of heat and steam • Locations where the inside of the ceiling serves as an outside air intake passage

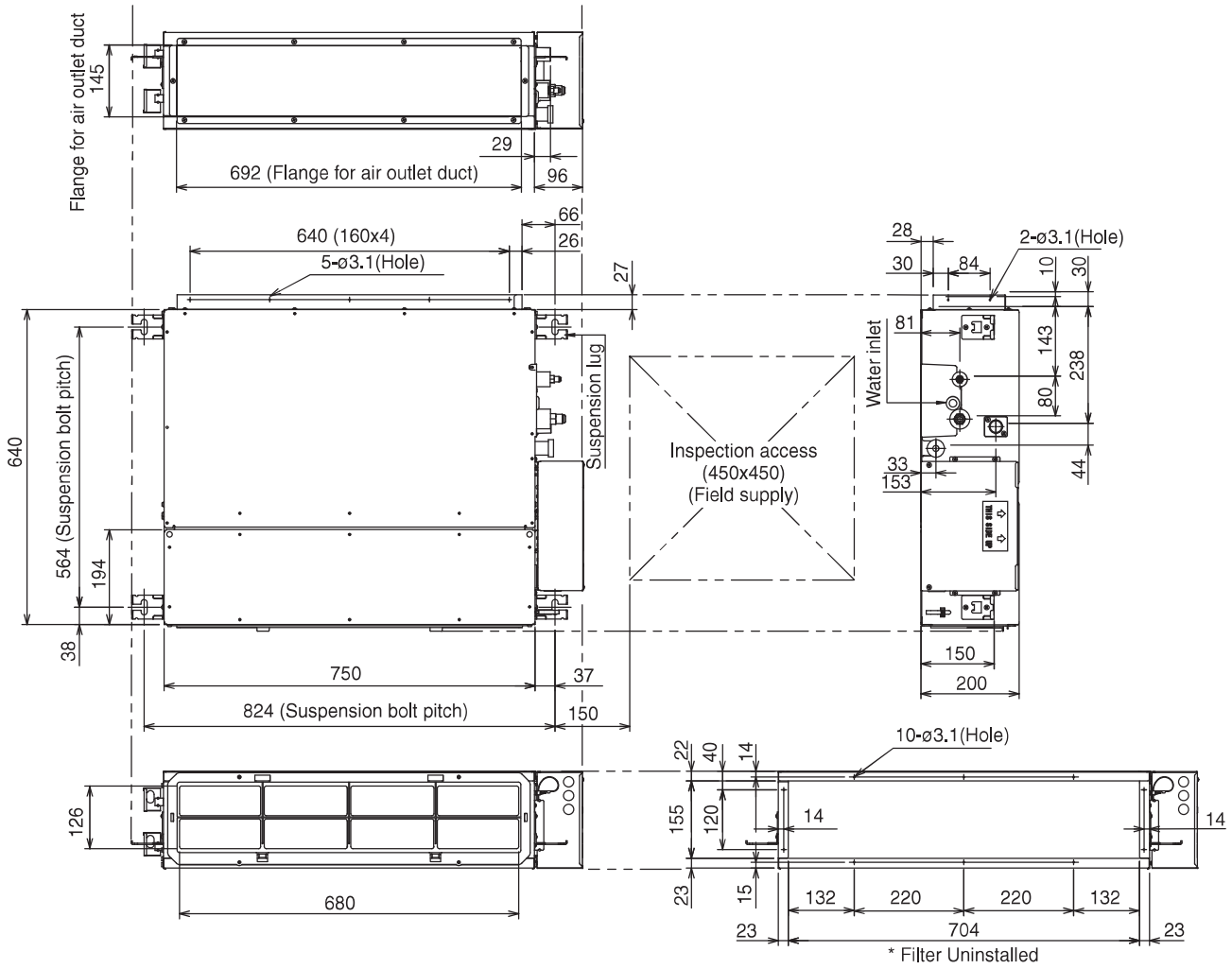
- **When installing into a ceiling, select the unit position and airflow direction that enable the cool and warm air to spread out to the whole room.**
- **Do not place objects that might obstruct the airflow within 1 m below the intake grill.**

Required Minimum Space for installation and Service



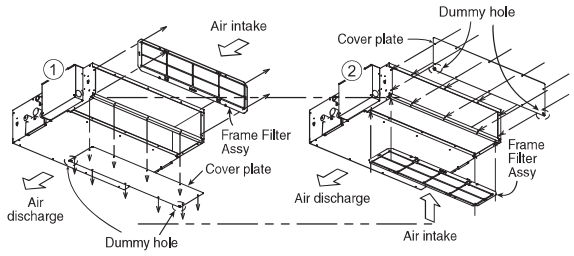
- H dimension means the minimum height of the unit installation space.
- Select H dimension such that a downward slope of at least 1/100 is ensured. Refer to 12.1.4 “Connecting the drain piping”

Dimension of the indoor unit

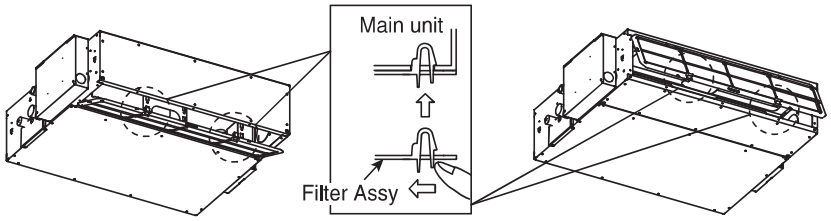


In case of Bottom Intake

1 Remove the frame filter assy as shown in diagram ①
2 Remove cover plate as shown in diagram ①
3 Fix frame filter assy as shown in diagram ②
4 Fix cover plate as shown in diagram ② with the dummy hole downward.



Fixing Frame Filter Assy



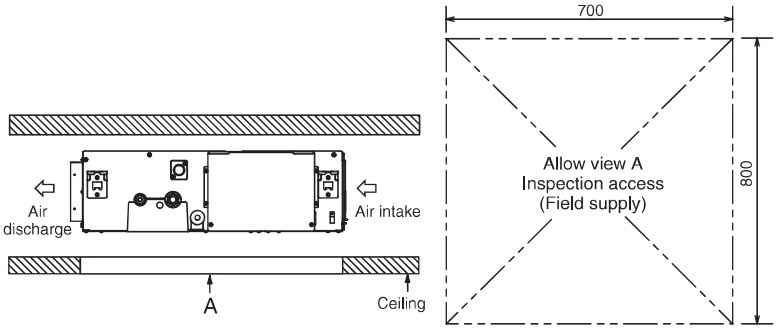
In case of bottom side

* Attach the frame filter assy to the main unit while pushing the tip of the latches in the direction of the arrow.

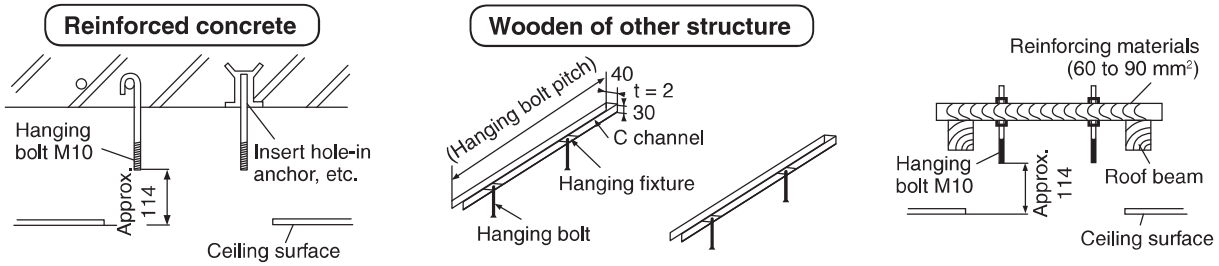
In case of back side

Ceiling Opening

- Install inspection opening (450 mm x 450 mm) on the control box side where maintenance and inspection of the control box and drain pump are easy. Install another inspection opening (800 mm x 700 mm) also at the lower part of the unit.



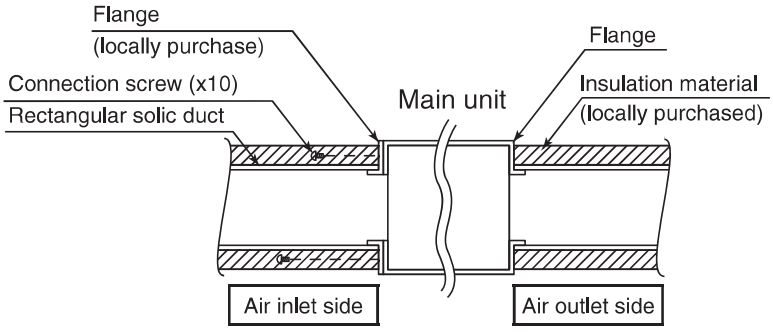
Securing the Hanging Bolts



- Secure the hanging bolts (M10, locally purchased) firmly in a manner capable of supporting the unit weight.
- Consult your construction or interior contractor for details on finishing the ceiling opening.

Installing an Intake and Discharge Duct Type

- Ensure the range of unit external static pressure is not exceeded. Refer technical manual for the range of external static pressure setting.
- Connect the duct as shown.
- When attaching duct to the intake side, remove the product filter frame assy and replace with locally purchase intake-side flange by using flange by using 10 - Ø 3.1(hole) screws.
- Wrap the flange and duct connection area with aluminium tape or similar to prevent air leak.

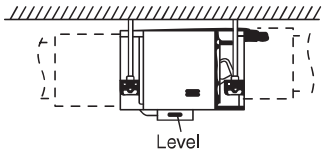


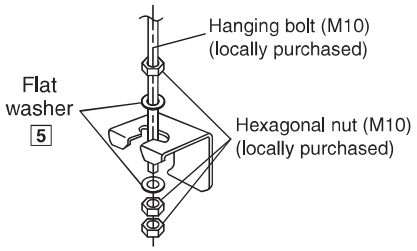
⚠ CAUTION

When attaching a duct to the intake-side, be sure to attach an air filter inside the air passage on the intake-side.
(Use an air filter with dust collecting efficiency at least 50% in a gravimetric technique.)

Installation into the Ceiling

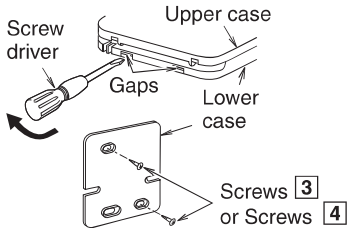
- Attach the nuts and washers to the hanging bolts, then lift up and hook the main unit onto the hanging fixtures.
- Check if the unit is leveled using a level or a vinyl hose filled partially with water.

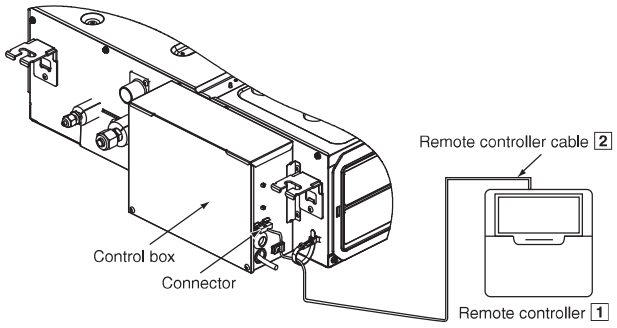




Remote Controller Installation

1 Remove the remote controller 1 lower case. (Insert a flat-tipped screw driver or similar tool 2 to 3 mm into one of the gaps at the bottom of the case, and twist to open. Refer to the illustration at right.) Be careful not to damage the lower case.
2 Do not remove the protective tape which is affixed to the upper case circuit board when remove the remote controller lower case.
3 Secure the lower case to an outlet box or wall. Refer to (A) or (B) instructions below depending on your choice of cable installation.
4 Be sure to use only the screws provided.
5 Do not over tighten the screws, as it may result in damage to the lower case.
6 Connect the indoor unit and the remote controller 1. (Refer to the illustration)
7 Insert firmly the connector of remote controller cable 2 to connector at control box of indoor unit.
8 Fix the green wire from remote controller cable 2 to the grounding location provided inside control board.



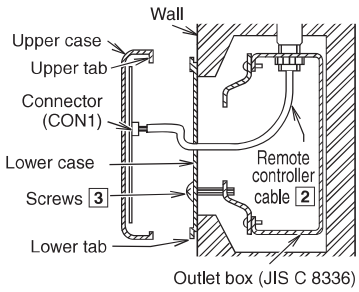


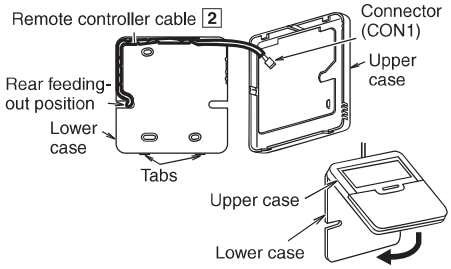
A. IF REMOTE CONTROLLER CABLE IS EMBEDDED

1 Embed an outlet box (JIS C 8336) into the wall. Outlet box maybe purchased separately. Medium size square outlet box (obtain locally) Part No. DS3744 (Panasonic Co., Ltd.) or equivalent.
2 Secure the remote controller lower case to the outlet box with the two accessory screws [3]. Make sure that the lower case is flat againts the wall at this time, with no bending.
3 Pass the remote controller cable [2] into the box.
4 Route the remote controller cable [2] inside the lower case through rear feeding-out direction.
5 Insert firmly the connector of remote controller cable [2] to connector (CON1) in the upper case circuit board.
6 Secure the remote controller upper case to the lower case with the tabs provided.

⚠ CAUTION

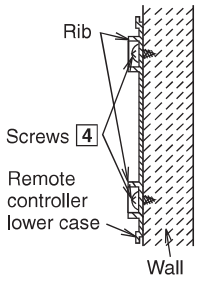
When the wall is hollow, please be sure to use the sleeve for remote controller cable to prevent dangers caused by mice biting the cable.

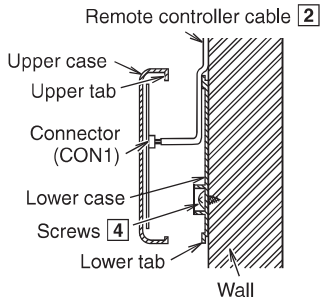


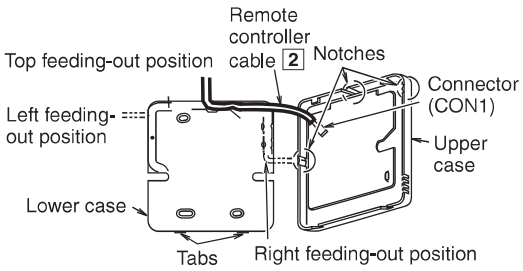


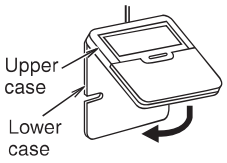
B. IF REMOTE CONTROLLER CABLE IS EXPOSED

1 Install the remote controller lower case to the wall with the two accessory screws [4].
2 Fasten the screws properly until screw head is lower than the rib and reach the base of remote controller lower case to ensure they do not damage the PCB inside the remote controller [1].
3 The feeding-out direction for the remote controller cable can be either via top, left or right side.
4 Use nipper to cut a notch at the upper case. (Select the intended feeding-out position)
5 Route the remote controller cable [2] inside the lower case in accordance with the intended feeding-out direction. (Refer to the illustration at below).
6 Insert firmly the connector of remote controller cable [2] to connector (CON1) in the upper case circuit board. (Refer to the illustration)
7 Secure the remote controller upper case to the lower case with the tabs provided.



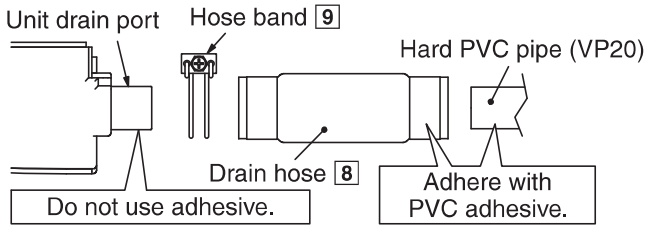


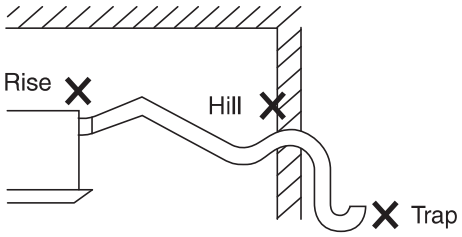


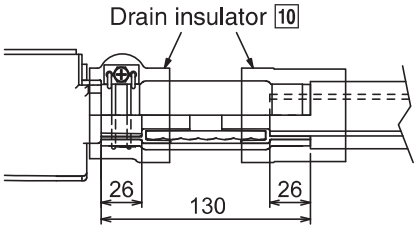


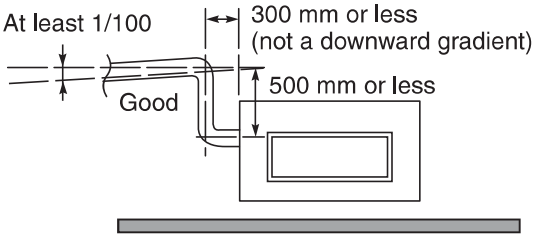
12.1.4 Connecting the Drain Piping

- Lay the drain piping so as to ensure drainage.
- Use a locally purchased VP20 general rigid PVC pipe (outer diameter ø26) for the drain piping **and firmly connect the indoor unit and the drain piping using supplied hose band to ensure that no leakage occurs.**
- Drain piping located indoor should always be insulated by wrapping with locally purchased insulation (foamed polyethylene with a thickness of 10 mm or more).
- The drain piping should have a downward gradient (1/100 or more) and should be secured by using pipe hanging equipment to avoid creating hills or traps partway.
- Should there be any obstacle preventing the drain piping from being extended smoothly, the drain piping can be raised outside of the main unit as shown in the illustration below.







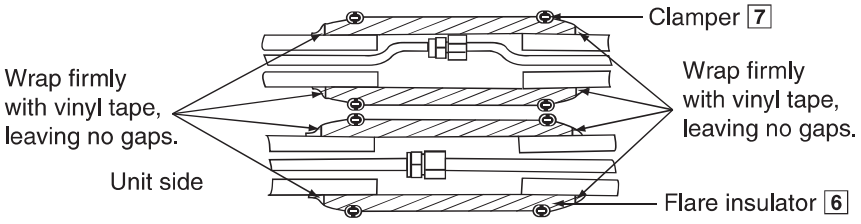


⚠ CAUTION

- Strictly do not install and extend the drain piping from the main unit drain water outlet horizontally or upward or raised it 50 cm or more. Doing so may result in poor drainage or drain motor failure.
- Do not use drain hose bent at 90° angle. (The maximum permissible bend is 45°.)

12.1.5 Insulating the Refrigerant Piping

- After the piping is connected, insulate. (Refer to the illustration)



12.1.6 Connecting the Indoor/Outdoor Connection Cable

- Remove the control box cover and insert the connection cable into the control box.
- Check the color of the wires on the terminal board and secure them with screws.
- Secure the outer sheath of the connection cable with the cord clamp.
- Reattach the control box cover to its original position.

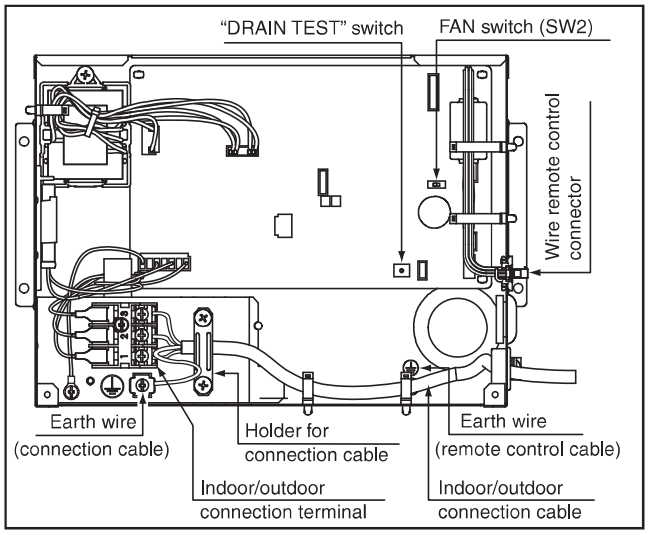
> **⚠ CAUTION**
>
> When the wall is hollow, please be sure to use the sleeve for tube ass'y to prevent dangers caused by mice biting the connection cable.

- Connection cable between indoor unit and outdoor unit should be approved polychloroprene sheathed 4 x 1.5 mm^2 flexible cord, designation type 60245 IEC 57 (H05RN-F) or heavier cord. Allowable connection cable length of each indoor unit shall be 30 m or less.
  - Ensure that the terminal numbers on the indoor unit are connected to the same terminal numbers on the outdoor unit by the right coloured wires as shown in the diagram.
  - Earth lead wire should be longer than the other lead wires as shown in the diagram for electrical safety purpose in case the cord slips out from the anchorage.
  - Secure the cable onto the control board with the holder (clamper).

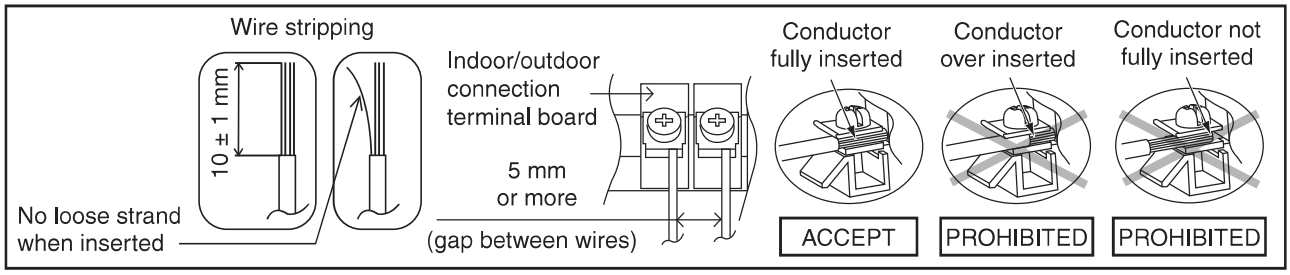
Terminals on the indoor unit	1	2	3	⏚
Colour of wires				
Terminals on the outdoor unit	1	2	3	⏚

- 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.

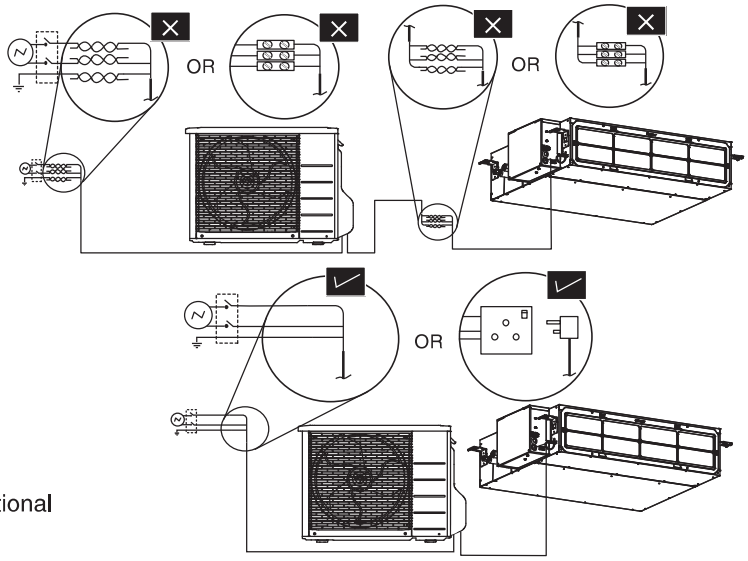
> **⚠ WARNING**
>
> ⏚ This equipment must be properly earthed.



12.1.6.1 Wire Stripping and Connecting Requirement



Do not joint wires



- Use complete wire without joining.
- Use approved socket and plug with earth pin.
- Wire connection in this area must follow to national wiring rules.

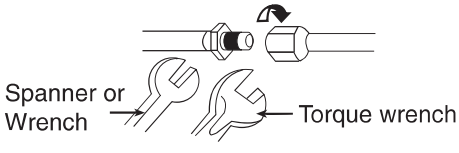
12.1.7 Connect the Piping

12.1.7.1 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. (In case of using long piping)

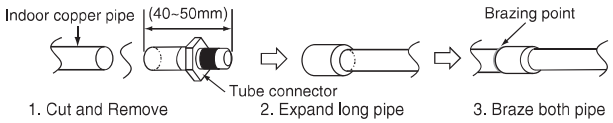
Connect the piping

- Align the center of piping and sufficiently tighten the flare nut with fingers.
- Further tighten the flare nut with torque wrench in specified torque as stated in the table.



For connection joint of R32 models

- Decide the length.
- Cut and remove the tube connectors at indoor copper pipings (both gas and liquid piping) by using pipe cutter. Remove burrs from cut edge.
- Use pipe expander to expand the end of long piping.
- Align the center of piping and braze the piping joints.



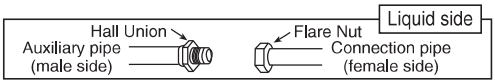
- Braze the piping joints carefully so that the indoor unit is not damaged by brazing flame.
  If necessary, cover with wet clothes to prevent parts unintentionally overburnt.

12.1.7.2 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. Align center of piping to valve and then tighten with torque wrench to the specified torque as stated in the table.

12.1.7.3 Connecting the Piping to Outdoor Multi

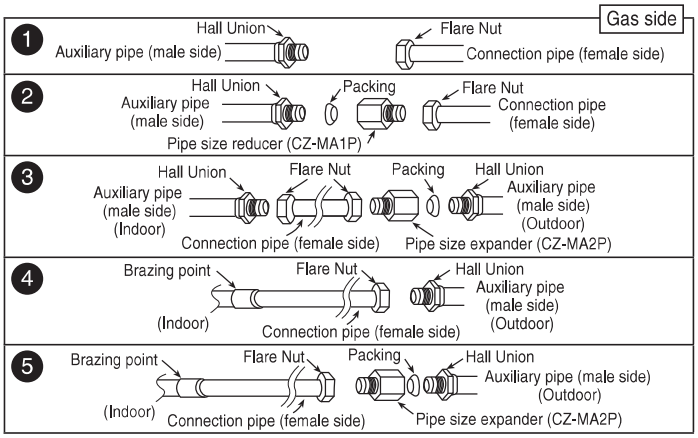
Decide piping length and then cut by using pipe cutter. Remove burrs from cut edge. Make flare after inserting the flare nut (locate at valve) onto the copper pipe. Align center of piping to valve and then tighten with torque wrench to the specified torque as stated in the table.



* For Gas side piping please refer table and diagram below

Outdoor Multi Combination Model				
	R410A Model	Pipe size (refer to diagram)	R32 Model	Pipe size (refer to diagram)
CS-MZ20* CS-Z25* CS-Z35*	CU-2E12* CU-2E15* CU-2E18* CU-3E18* CU-3E23* CU-4E23* CU-4E27* CU-5E34*	❶	CU-2Z35* CU-2Z41* CU-2Z50* CU-3Z52* CU-3Z68* CU-4Z68* CU-4Z80* CU-5Z90*	❹
CS-Z50*	CU-2E18* CU-3E18* CU-3E23* CU-4E23* CU-4E27* CU-5E34*	❷ (CZ-MA1P)	CU-2Z50* CU-3Z52* CU-3Z68* CU-4Z68* CU-4Z80* CU-5Z90*	
CS-Z60*	CU-3E23* CU-4E23* CU-4E27* CU-5E34*	❸ (CZ-MA2P)	CU-3Z68* CU-4Z68* CU-4Z80* CU-5Z90*	❺ (CZ-MA2P)

* Kindly contact authorized dealer for connectivity validity.



12.1.8 Switching the High State Switch (SW2)

- To increase the air volume, open the control box and on the control board, switch the FAN switch (SW2) to “HI”.
- See the diagram for “Connecting the Indoor/Outdoor Connection Cable”.

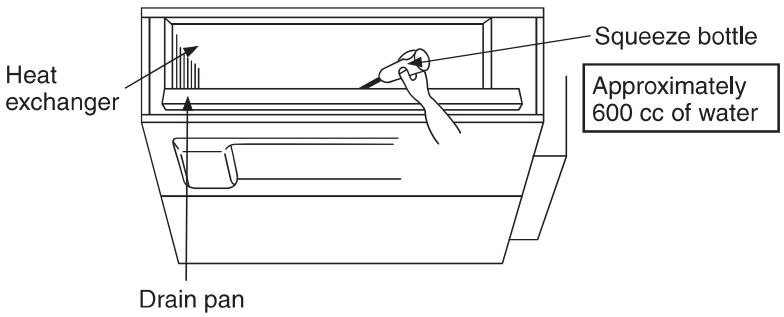
12.1.9 Note: Enabling long-range remote control

- To maintain EMC emission limits, cabling interconnecting the HA terminal and subsequent opto-coupler, must be no more than 1.9 m length.
- Loop four turns of this cable through a suitable small EMC ferrite toroid, and protect with a short length of large diameter heat-shrink tube.
- There is no similar length limit for cable following on from the opto-coupler isolation.

12.1.10 Check the Drainage

Check after connecting the power supply.

- Pour approximately 600 cc of water into the drain pan of the main unit using a squeeze bottle, etc.
- Press the drain test run switch on the control board in the control box to start the drain motor and check whether the water drains normally.
  (The drain motor operates for approximately 5 minutes and then stops automatically.)
  (See the diagram for “Connecting the Indoor/Outdoor Connection Cable”.)



12.2 Outdoor Unit

12.2.1 Select the Best Location

- If an awning is built over the unit to prevent direct sunlight or rain, be careful that heat radiation from the condenser is not obstructed.
- There should not be any animal or plant which could be affected by hot air discharged.
- Keep the spaces indicated by arrows from wall, ceiling, fence or other obstacles.
- Do not place any obstacles which may cause a short circuit of the discharged air.
- If piping length is over the [piping length for additional gas], additional refrigerant should be added as shown in the table.

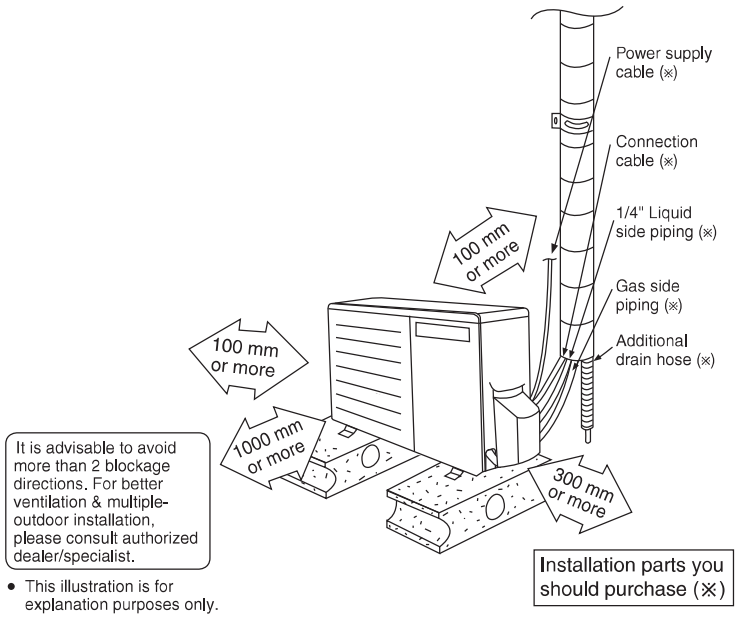
Table A

Model	Horse Power (HP)	Piping size		Std. Length Ⓐ (m)	Max Elevation Ⓑ (m)	Min. Piping Length (m)	Max. Piping Length (m)	Additional Refrigerant (g/m)	Piping Length for add. gas (m)	Indoor A_{min} (m^2)		Indoor A_{min} (m^2)		Indoor A_{min} (m^2)
		Gas	Liquid							2.2m for mini cassette	2.5m for mini cassette	2.2m for ducted	2.5m for ducted	0.6m for floor console
Z25****	1.0HP	9.52 mm (3/8")	6.35 mm (1/4")	5	15	3	20	10	7.5	0.64	0.50	0.64	0.50	8.67
Z35****	1.5HP				15	3	20	10	7.5	0.71	0.55	0.71	0.55	9.55
Z50****	2.0HP	12.7 mm (1/2")			20	3	30	15	7.5	1.37	1.06	1.37	1.06	18.48
Z60****	2.25HP				20	3	30	15	7.5	1.37	1.06	1.37	1.06	N/A

Example: For Z25****
If the unit is installed at 10 m distance, the quantity of additional refrigerant should be 25 g .... (10-7.5) m × 10 g/m = 25 g.

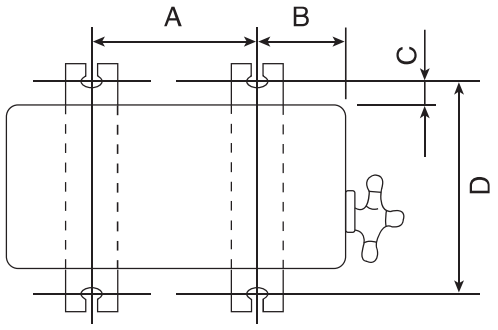
$$A_{min} = (M / (2.5 \times (LFL)^{(5/4)} \times h_0))^2$$

A_{min} = Required minimum room area, in m^2
M = Refrigerant charge amount in appliance, in kg
LFL = Lower flammable limit (0.306 kg/m^3)
h_0 = Installation height of the appliance: (2.2m for mini cassette & ducted is standard reference installed height)
(2.5m for mini cassette & ducted is minimum installed height given by manufacturer)
(0.6m for floor console)



12.2.2 Install the Outdoor Unit

- After selecting the best location, start installation according to Indoor/Outdoor Unit Installation Diagram.
  1 Fix the unit on concrete or rigid frame firmly and horizontally by bolt nut (ø10 mm).
  2 When installing at roof, please consider strong wind and earthquake.
  Please fasten the installation stand firmly with bolt or nails.



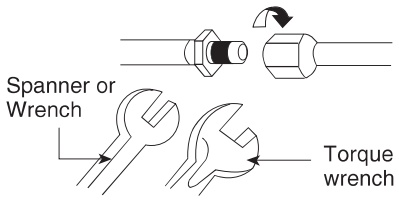
Model	A	B	C	D
Z25****	570 mm	105 mm	18.5 mm	320 mm
Z35****	540 mm	160 mm	18.5 mm	330 mm
Z50****	613 mm	131 mm	24 mm	360.5 mm
Z60****				

12.2.3 Connect the Piping

12.2.3.1 Connecting the Piping to Indoor

For connection joint location at outside building
Please make flare after inserting flare nut (locate at joint portion of tube assembly) onto the copper pipe. (In case of using long piping)

Connect the piping
- Align the center of piping and sufficiently tighten the flare nut with fingers.
- Further tighten the flare nut with torque wrench in specified torque as stated in the table.



For connection joint location at inside building
- Refer to indoor installation instruction.

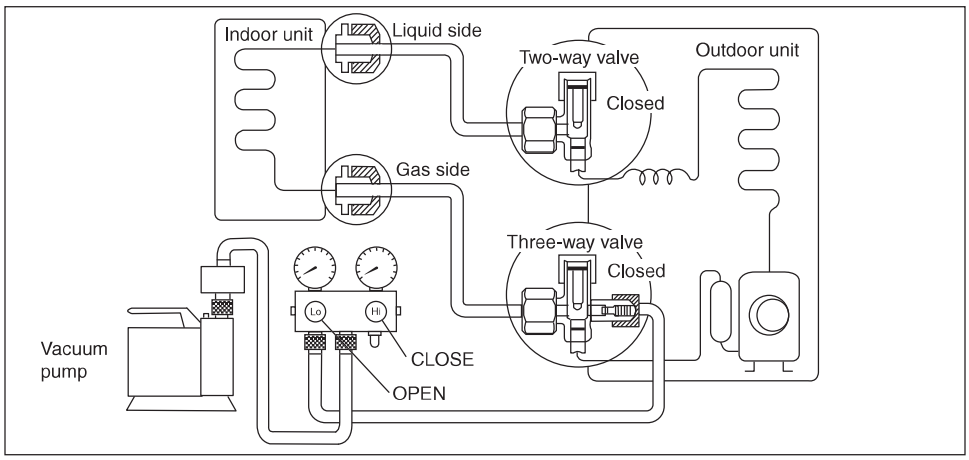
12.2.3.2 Connecting the Piping to Outdoor

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.
Align center of piping to valve and then tighten with torque wrench to the specified torque as stated in the table.

Do not overtighten, overtightening may cause gas leakage.	
Piping size	Torque
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)]

12.2.4 Evacuation of the Equipment

WHEN INSTALLING AN AIR CONDITIONER, BE SURE TO EVACUATE THE AIR INSIDE THE INDOOR UNIT AND PIPES in the following procedure.



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.
   - ○ Be sure to connect the end of the charging hose with the push pin to the service port.
2 Connect the center hose of the charging set to a vacuum pump.
3 Turn on the power switch of the vacuum pump and make sure that the needle in the gauge moves from 0 cmHg (0 MPa) to –76 cmHg (–0.1 MPa). Then evacuate the air approximately ten minutes.
4 Close the Low side valve of the charging set and turn off the vacuum pump. Make sure that the needle in the gauge does not move after approximately five minutes.
   Note : BE SURE TO TAKE THIS PROCEDURE IN ORDER TO AVOID REFRIGERANT GAS LEAKAGE.
5 Disconnect the charging hose from the vacuum pump and from the service port of the 3-way valve.
6 Tighten the service port caps of the 3-way valve at a torque of 18 N•m with a torque wrench.
7 Remove the valve caps of both of the 2-way valve and 3-way valve. Position both of the valves to “OPEN” using a hexagonal wrench (4 mm).
8 Mount valve caps onto the 2-way valve and the 3-way valve.
   - ○ Be sure to check for gas leakage.

- If gauge needle does not move from 0 cmHg (0 MPa) to -76 cmHg (-0.1 MPa), in step ③ above take the following measure:
- If the leak stops when the piping connections are tightened further, continue working from step ③.
- If the leak does not stop when the connections are retightened, repair location of leak.
- Do not release refrigerant during piping work for installation and reinstallation.
- Take care of the liquid refrigerant, it may cause frostbite.

12.2.5 Connect the Cable to the Outdoor Unit

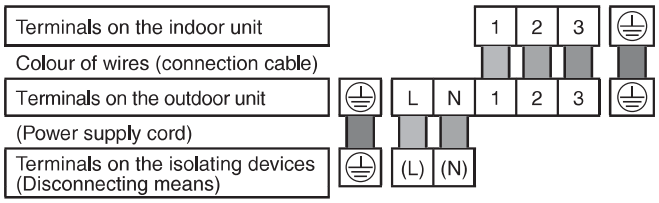
(FOR DETAIL REFER TO WIRING DIAGRAM AT UNIT)

1 Remove the control board cover from the unit by loosening the screw.

2 Cable connection to the power supply through Isolating Devices (Disconnecting means).
   - Connect approved type polychloroprene sheathed **power supply cord** 3 x 1.5 mm^2 (1.0 ~ 1.5HP) or 3 x 2.5 mm^2 (2.0 ~ 2.25HP) type designation 60245 IEC 57 or heavier cord to the terminal board, and connect the others end of the cord to Isolating Devices (Disconnecting means).

3 **Connection cable** between indoor unit and outdoor unit shall be approved polychloroprene sheathed 4 x 1.5 mm^2 flexible cord, type designation 60245 IEC 57 or heavier cord. Allowable connection cable length of each indoor unit shall be 30 m or less.

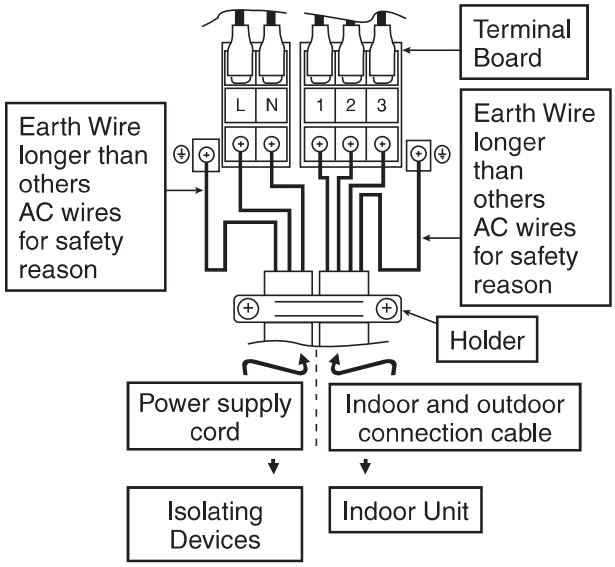
4 Connect the power supply cord and connection cable between indoor unit and outdoor unit according to the diagram below.



5 Secure the power supply cord and connection cable onto the control board with the holder.

6 Attach the control board cover back to the original position with screw.

7 For wire stripping and connection requirement, refer to instruction 12.1.6 of indoor unit.



⚠ WARNING
⏚ This equipment must be properly earthed.

Note:

- Isolating Devices (Disconnecting means) should have minimum 3.0 mm contact gap.
- Earth wire shall be Yellow/Green (Y/G) in colour and longer than other AC wires for safety reason.

12.2.6 Piping Insulation

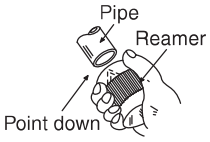
1 Please carry out insulation at pipe connection portion as mentioned in Indoor/Outdoor Unit Installation Diagram. Please wrap the insulated piping end to prevent water from going inside the piping.

2 If drain hose or connecting piping is in the room (where dew may form), please increase the insulation by using POLY-E FOAM with thickness 6 mm or above.

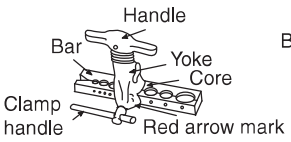
12.2.7 Cutting and Flaring the Piping

1 Please cut using pipe cutter and then remove the burrs.
2 Remove the burrs by using reamer. If burrs is not removed, gas leakage may be caused. Turn the piping end down to avoid the metal powder entering the pipe.
3 Please make flare after inserting the flare nut onto the copper pipes.

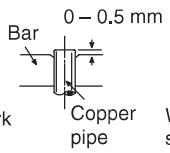
1. To cut

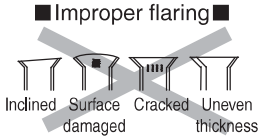


2. To remove burrs



3. To flare

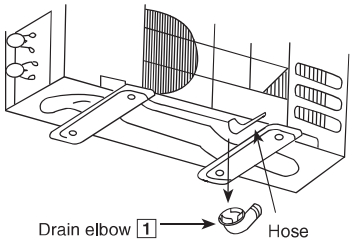




When properly flared, the internal surface of the flare will evenly shine and be of even thickness. Since the flare part comes into contact with the connections, carefully check the flare finish.

12.2.8 Disposal of Outdoor Unit Drain Water

- If a drain elbow is used, the unit should be placed on a stand which is taller than 3 cm.
- If the unit is used in an area where temperature falls below 0°C for 2 or 3 days in succession, it is recommended not to use a drain elbow, for the drain water freezes and the fan will not rotate.



Install the hose at an angle so that the water smoothly flows out.