

AIR CONDITIONER Drain Pump Kit

Installation Manual

O.K.KIZAI CO.,LTD.

K-KDU572BVE

• Read this manual as well as that of the air conditioner before use.

Safety Precautions

Only attempt installation after reading these safety precautions.

• Safety precautions in this manual are marked either "▲Warning" or "▲Caution." "▲Warning" indicates procedures which can cause fatality or serious injury if performed incorrectly. However, procedures marked "▲Caution" may also entail serious consequences depending on the situation. In either case, important safety information is listed which must be read carefully.
• After installation, perform a test run to make sure everything runs properly. Lastly, make sure the customer keeps this manual.

Caution

Ground the unit. Do not let the earth wire should come in contact with gas pipes, water pipes, lightning rods, or telephone earth wires. Incomplete earthing may cause electrical shock.

Drain pipes should be laid following the explanation in this manual to achieve proper drainage and should be warmed to prevent condensation. Improper drain work may cause leaks, damaging furniture, etc.

Do not install in the following locations.
1. Locations such as kitchens which contain a lot of mineral oil or steam in the atmosphere or where oil may splatter on the unit. Resin parts may deteriorate, causing the unit to fall or leak.
2. Locations where flammable gases may leak, or where thinner, gasoline, and other volatile substances are handled. Leaked gas may accumulate around the drain pump kit, causing an explosion.

Warning

To be used for draining air conditioners. Do not use for any other purpose. Improper use may cause fire or leaking.

Installation should be performed by your dealer or by a professional. Any problems with the unit if you install it yourself can lead to leaking, electrical shock, or fires.

Installation should be done following the installation manual. Improper installation may cause leaking, electric shock, or fires.

Do not install outdoors where the unit may be exposed to rain or in locations where flammable objects and gas are present. This may cause electric shock or fires.

Use only accessories and parts which are of the designated specification when installing. Not using items of the designated specification may cause leaking, electrical shock, or fire.

Wiring should be performed by a certified electrician in accordance with the "Technical Standards for Electric Equipment," the latest "Internal Wiring Regulations JEC8001," and this installation manual. Insufficient power supply circuit capacity or incorrect wiring may cause electrical shock or fire.

Functions

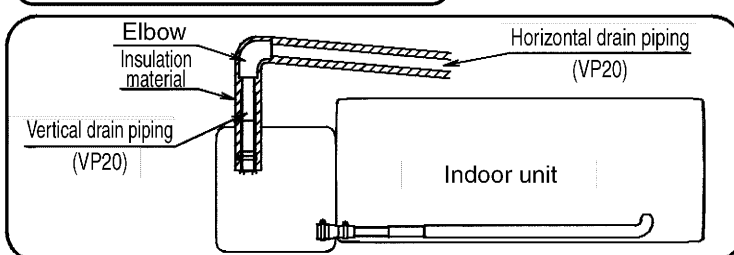
Main Applicable Models	Sky Air	Listed below	Drain entrance connection pipe diameter	VP20
Drain up height (mm)	(Note 1)	1,000	Drain exit connection pipe diameter	VP20
Power source	single phase 200V/50/60Hz	Safety device	Operating noise(dB)	25
Drain up mechanism	Power consumption	12/11(W)	Product mass(kg)	3.5
Insulation	Type E			

Note 1: Height from bottom of drain pump kit up to the drain

Component parts

Name	Shape	Quantity	Name	Shape	Quantity	Name	Shape	Quantity
Drain Pump Kit		1	Insulation material		1	Hard polyvinyl chloride pipe joint		1
			Vinyl tube		1	Polyvinyl chloride pipe		1
Relay wire harness		1	Clamp		2	Soft drain pipe		1
Power cord		1	Clamp		1	Wood screw		5
Insulation tube		1	Reducing socket		1	Clamping material		4
			Drain hose		1	pattern sheet for installation		1
Insulation material		1	Drain hose		1	Installation Manual		1

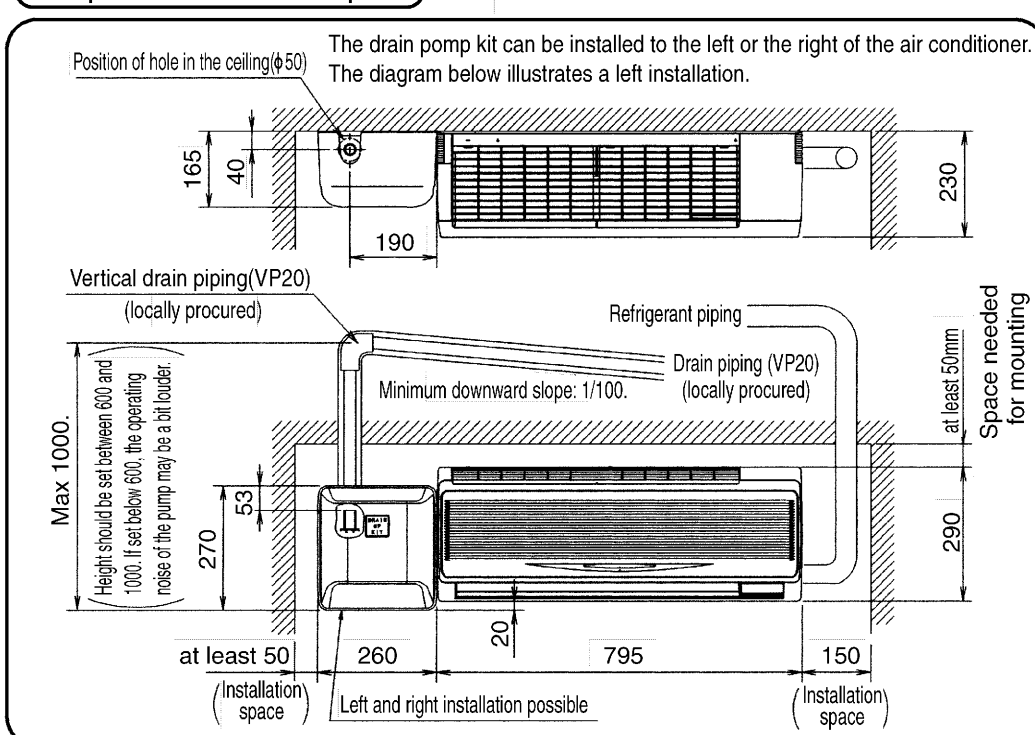
Parts required for installation (to be procured on location)



Applicable models

Indoor unit model name
FXA20 · 25 · 32LVE(C)

Drain position · head · service space



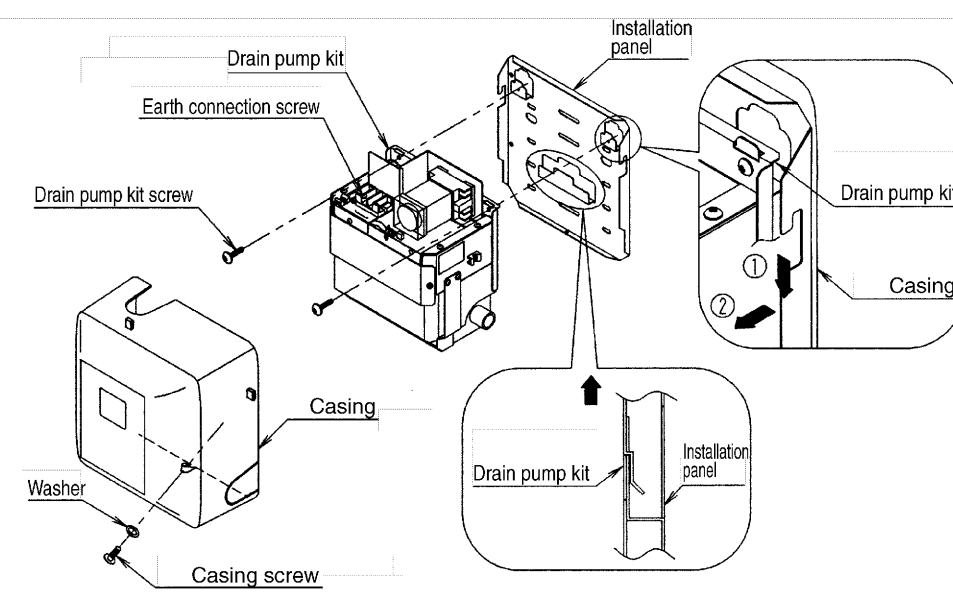
1 Pre-installation preparations

• See the indoor unit's installation manual for indoor unit work.

Drain pump kit preparations

• Remove the casing and the drain pump kit from the installation panel.

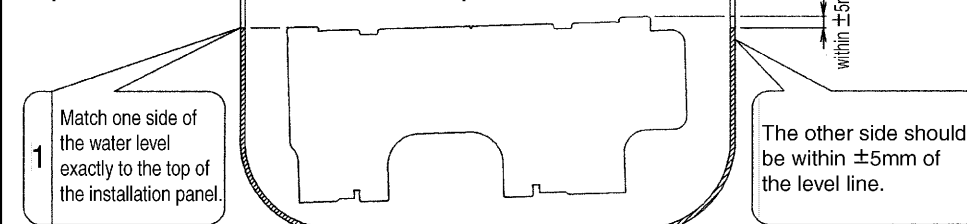
1. Remove the casing screw and pull the casing down and forward.
2. 2 Screws of the drain pump kit and lift the drain pump kit out.



2 Indoor unit preparations

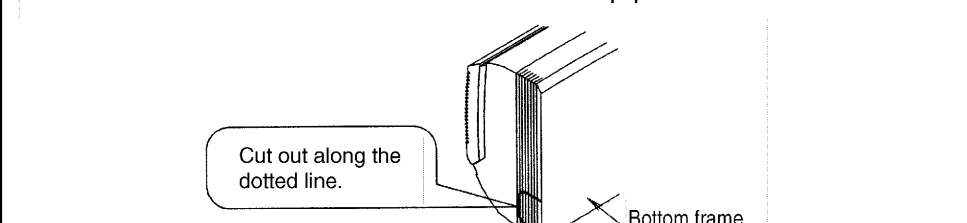
• Make sure the indoor unit is installed first.

1. Attaching of the indoor unit installation panel
After installing the installation plate based on the indoor unit installation manual, make sure it is level using the vinyl tube (accessory 7) filled with water. (See the figure below)
Temporarily screwing in the screws on the left half of the installation panel will make the rest of the procedure easier.



Caution 1. Using a level may not be sufficient to confirm that the panel is level.
2. Leaks may occur if the panel does not have the designated levelness.

2. Decide whether the pipes are to come out to the left or the right, and use cutters to cut out the exit hole for the pipes on the bottom frame.



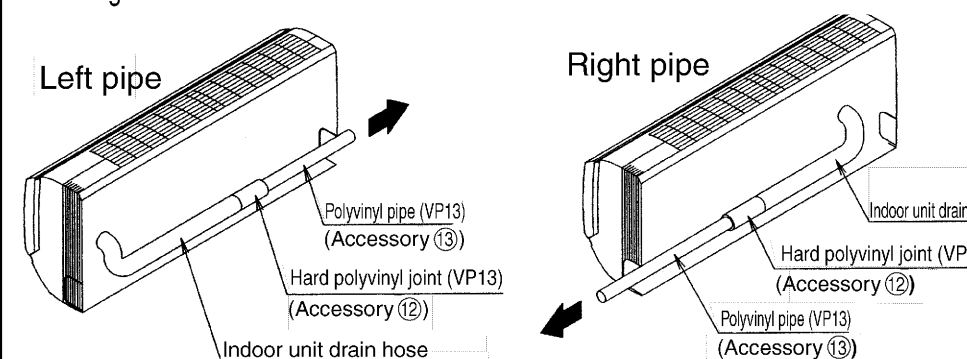
3. Connecting the drain hose

To the left

1. Connect the hard polyvinyl pipe joint (accessory 12) to the indoor unit drain hose using adhesive.
2. Connect the polyvinyl pipe (accessory 13) to the hard polyvinyl joint (accessory 12) using adhesive.

To the right

1. Remove the drain hose connected to the indoor unit and replace with a drain plug and insulation tubing.
2. Attach the removed drain hose to the left.
3. Connect the hard polyvinyl pipe joint (accessory 12) to the indoor unit drain hose using adhesive.
4. Connect the polyvinyl pipe (accessory 13) to the hard polyvinyl pipe joint (accessory 12) using adhesive.

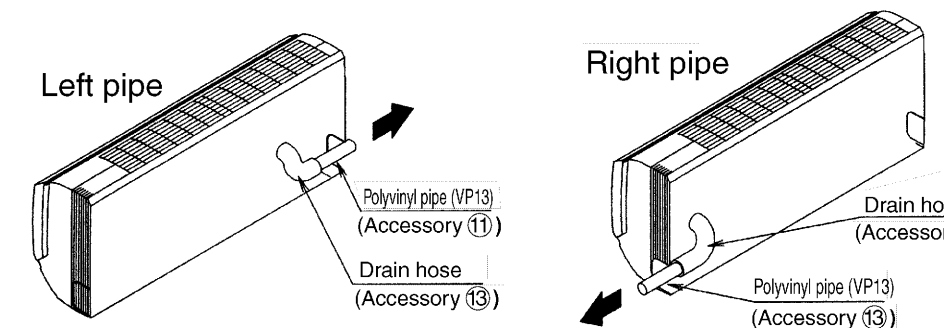


Replacing the drain plug

- 1 Remove the drain plug and the insulation tube.
 - 2 Remove the standard drain hose. (The standard drain hose is not used to connect the drain pump kit.)
 - 3 Replace the drain plug and the insulation tube onto the right side.
- Replacing the drain plug
- Do not place lubricant (freezer oil) when inserting. This may cause deterioration and water leaks.
- Insert using a hexagon wrench (4mm).
- Make sure there are no gaps.

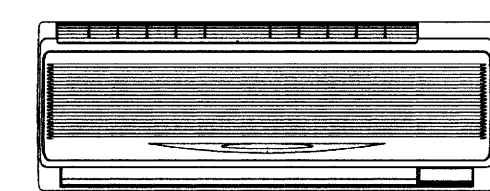
When using the drain hose (accessory 11)

- 1 Remove the indoor unit drain hose and attach the drain hose (accessory 11).
- 2 Connect the polyvinyl pipe (accessory 13) to the drain hose (accessory 11) using adhesive.

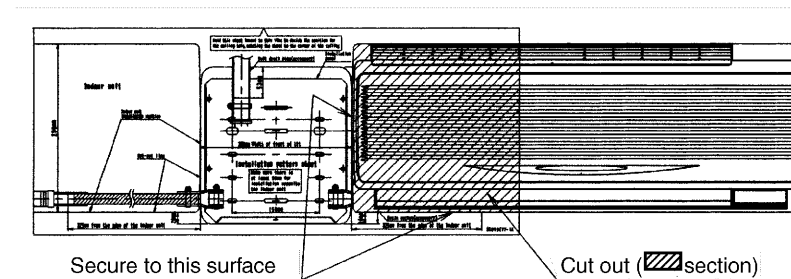


3 Attaching the installation panel

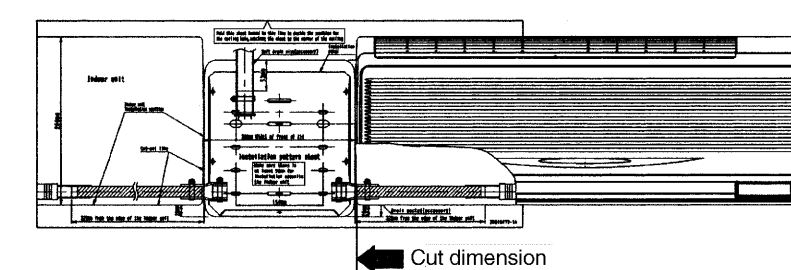
1. Install the indoor unit.



2. Cut out the indoor unit section from the installation pattern sheer (accessory 17) and attach to the installation position on the indoor unit.

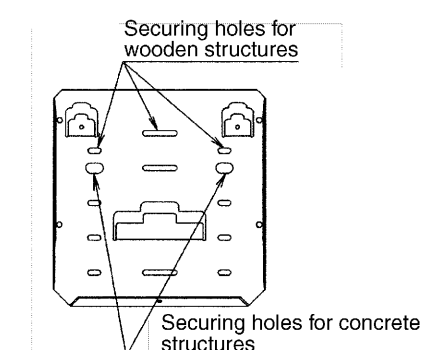


3. Cut the polyvinyl pipe (accessory 13) attached to the indoor unit to the length indicated on the installation pattern.

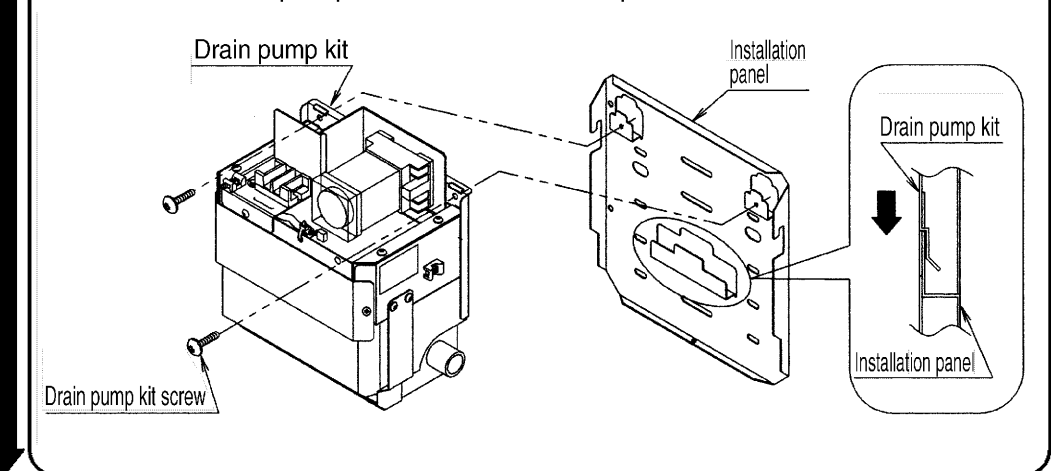


4. Determine the position to secure the installation panel for the drain pump kit by matching to the pattern sheet. Blank remove the pattern sheet once this is done.

• If using wood screws (accessory 15), fix it at least 4 positions.
• For concrete, attach it using commercially available anchors (M8) and bolts.



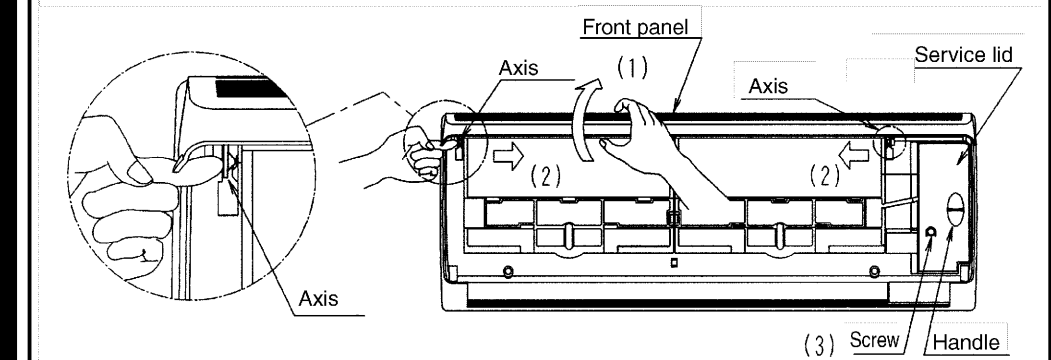
5. Attach the drain pump kit to the installation panel and screw in the screws.



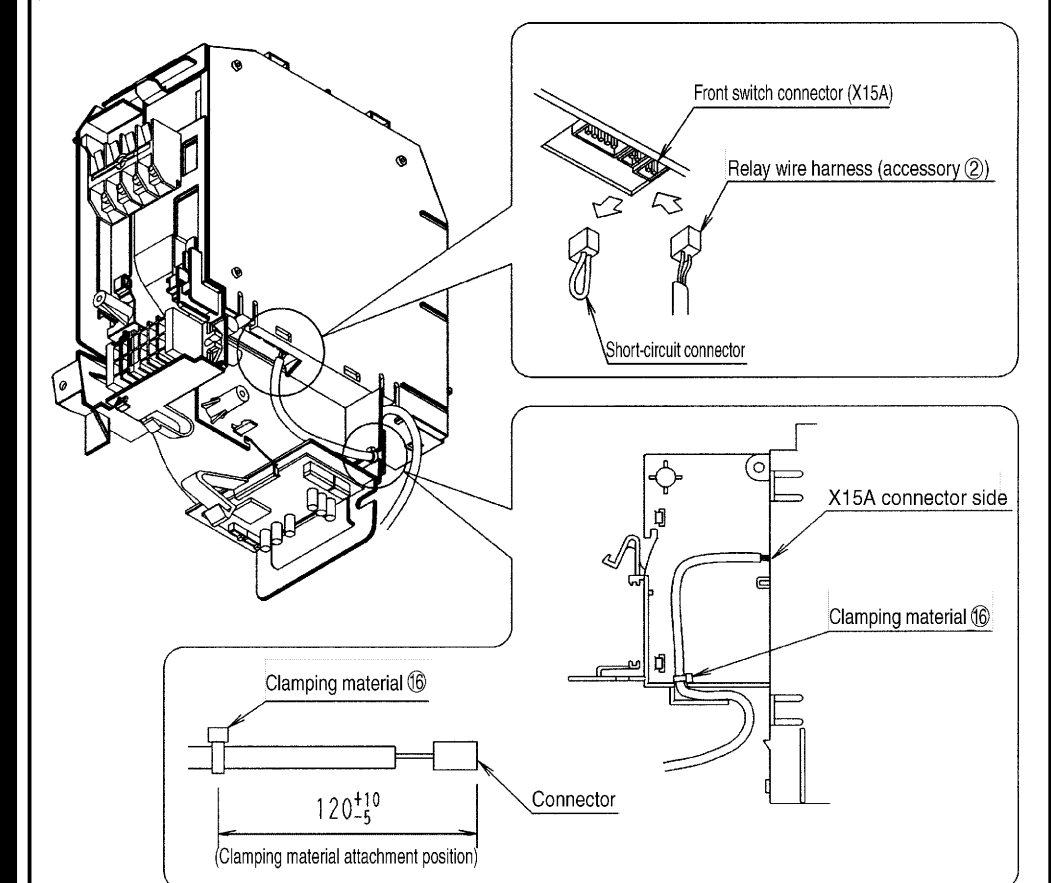
4. Attaching the relay harness, the connection harness, and the power line.

• Connect the relay harness (accessory 2) and the power line (accessory 3) to the indoor unit.

1. Remove the front panel and the service lid following the indoor unit installation manual. [Removing the front panel and service lid]
(1) Open the front panel as far as it goes.
(2) Push the axes on either side of the front panel towards the center of the main unit and remove. (You can also remove it by sliding the front panel either to the left or right and pulling it forward.)
(3) Remove the screws from the service lid and pull the handle forward.

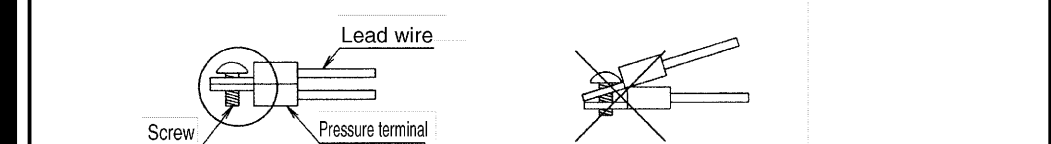


2. Remove the indoor unit p-board X15 short-circuit connector and connect the relay wire harness (accessory 2) connector.



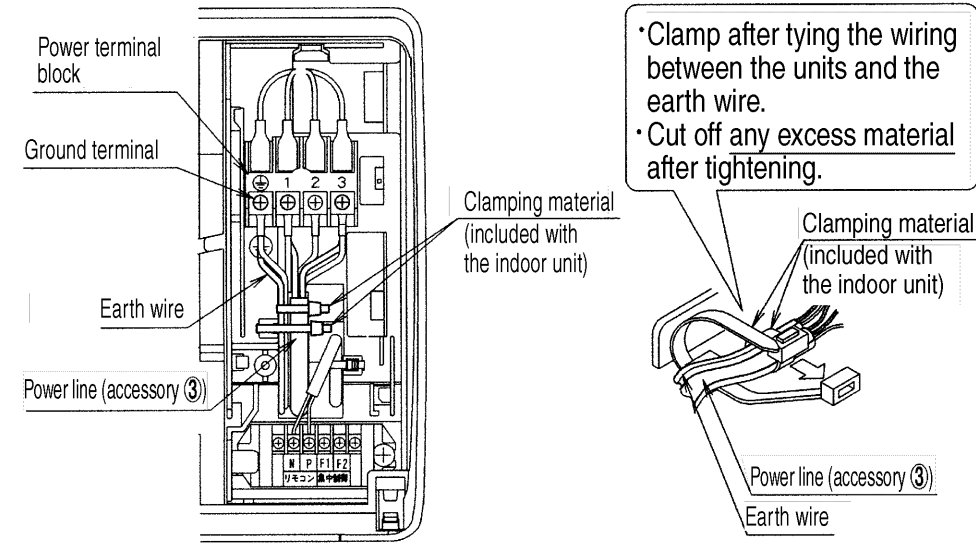
3. Connect the power line (accessory 3) to the indoor unit power terminal block.

• When connecting the terminal to the power terminal block, make sure it is attached properly, as shown below. If the pressure terminals are mistakenly attached in the same direction, the surface of the terminal that is touching will be reduced, causing heat and perhaps burn damage.



4. Connect the earth wire (locally procured - copper wire at least more than 2mm²) between the indoor unit and the drain pump kit with the ground connection screw for the indoor unit.

- Be sure to perform Type D grounding.
- Make sure the ground resistance is below 100 ohms.

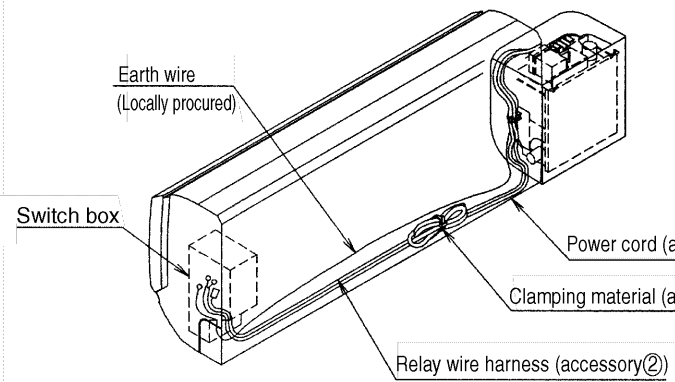


*Clamp after tying the wiring between the units and the earth wire.
*Cut off any excess material after tightening.

5 Passing the wire through

1. See the figure below for how to pass the wire through.

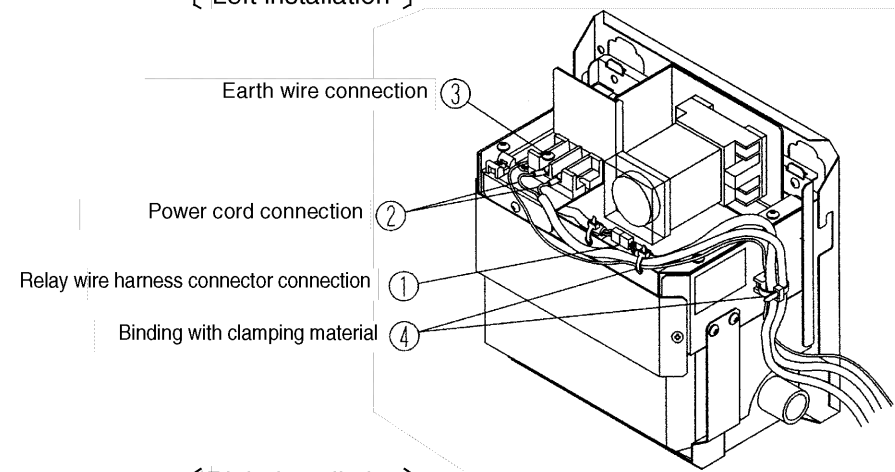
- The relay wire harness, power cord and earth wire should be matched to the space inside the indoor unit.



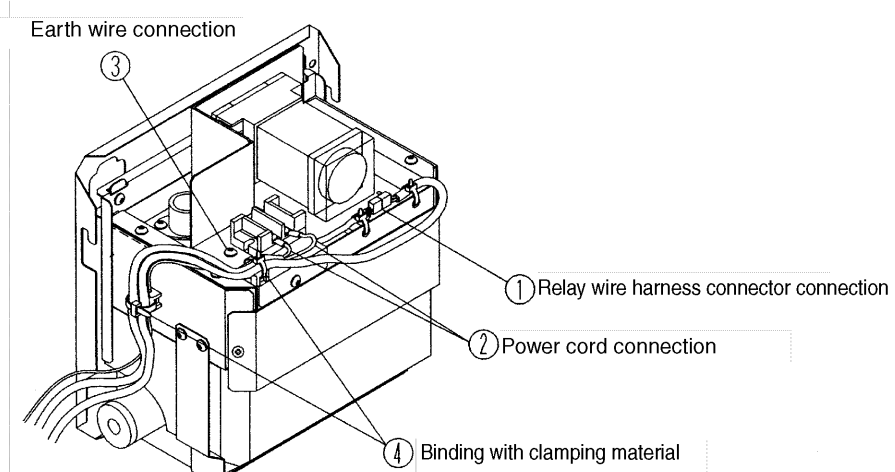
- Connect the relay wire harness (accessory 2) and the power cord (accessory 3) to the drain pump unit.

- 1 Connect the relay wire harness (accessory 2) connector.
- 2 Connect the power cord (accessory 3) to the power terminal block.
- 3 Secure the earth wire (locally procured - copper wire at least 2mm²) using the ground connection screw.
- 4 Bind excess relay wire harness, power cord, and earth wire using the clamping material (accessory 16) and store them inside the indoor unit.

[Left installation]



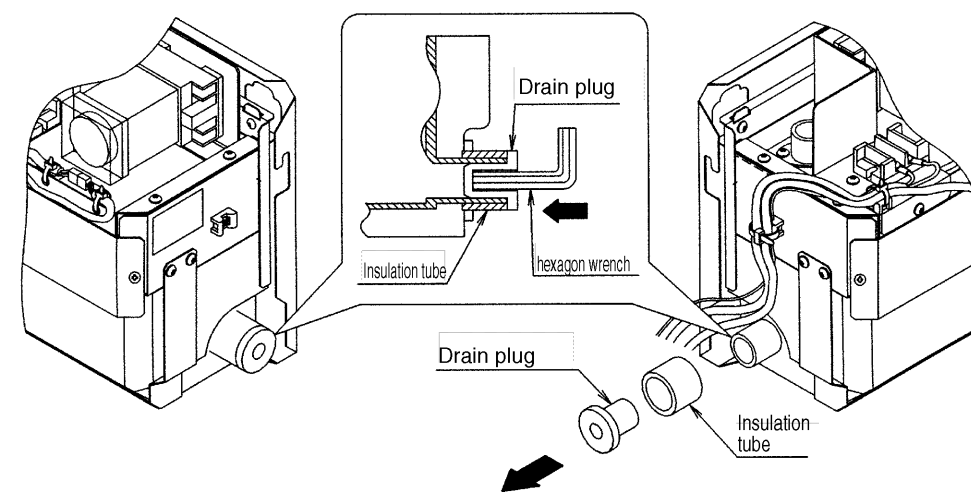
[Right installation]



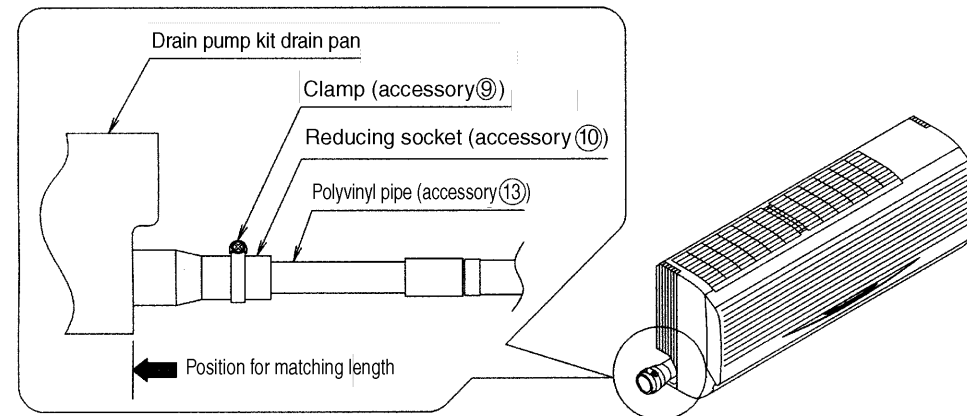
6 Installing the drain pump kit and drain piping.

1. When installing the drain pump kit to the right, transfer the drain plug and the insulating tubing from the left to the right.

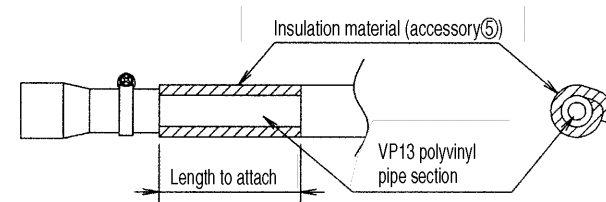
- When performing a left installation, there is no need to transfer these items.



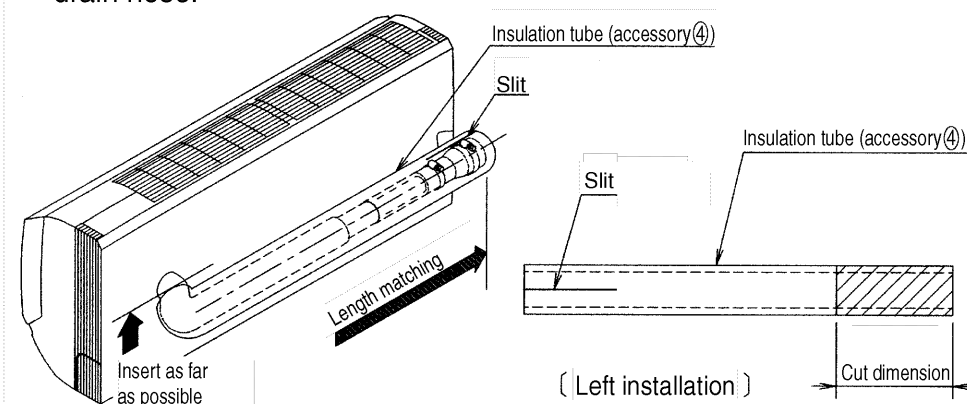
2. Insert the clamp (accessory 9) and the reducing socket (accessory 10) into the indoor unit polyvinyl pipe (accessory 13), then match the position and tighten up the clamp to match the length of the drain pump kit drain pan socket.



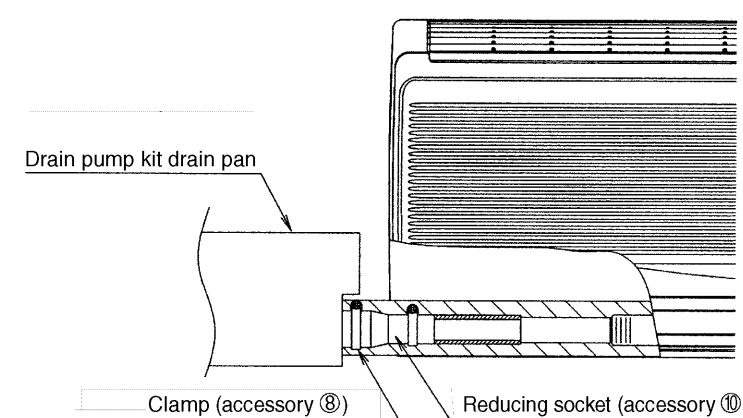
3. Matching the dimensions of the area required, cut the right length of insulation material (accessory 5) for the drain hose hard polyvinyl pipe section and attach.



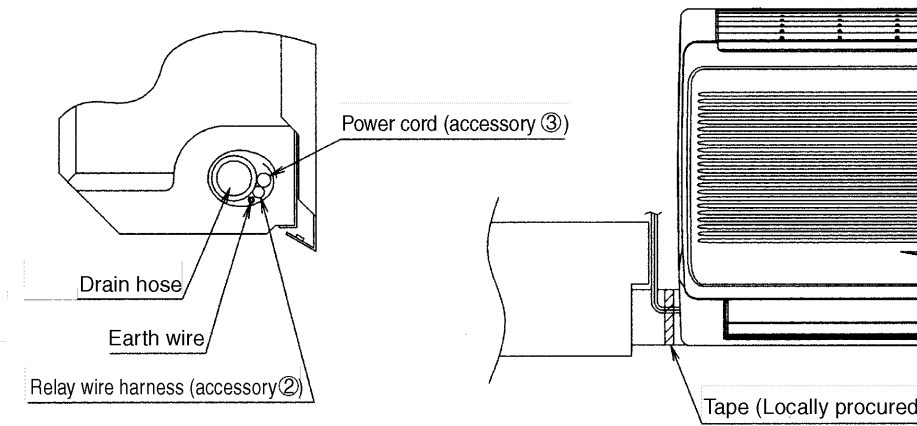
4. Insert the insulation tubing (accessory 4) as far into the drain hose as it can go.
● There is a slit in one side of the insulation tubing. Position the slit side to the drain pump kit.
● For a left installation, cut the insulation tubing to match the length of the drain hose.



5. Insert the clamp (accessory 8) and the reducing socket (accessory 10) into the drain pump kit drain socket and tighten it.



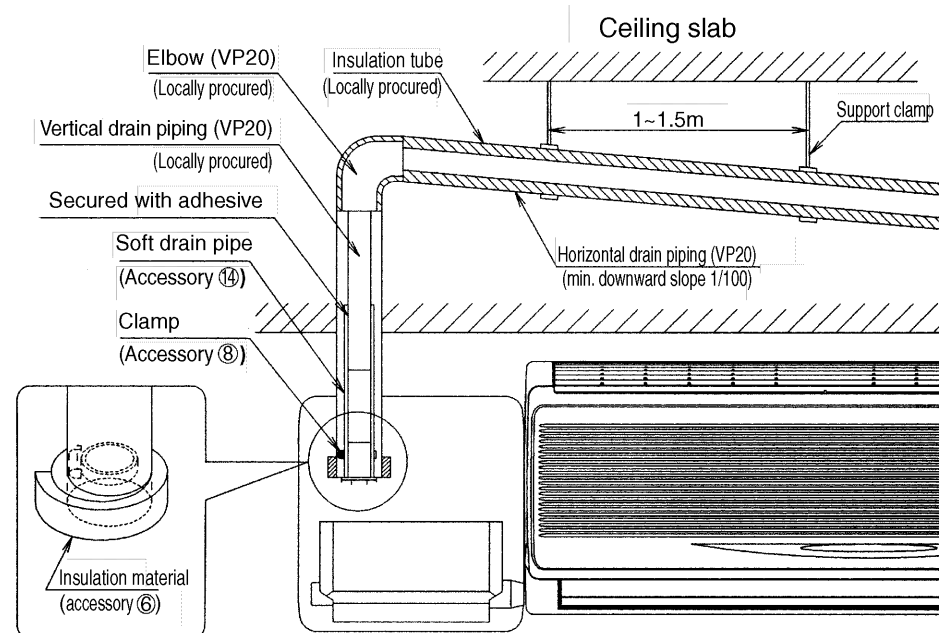
6. Secure the insulation tubing and power line with tape.



7. Connect the exit pipe.

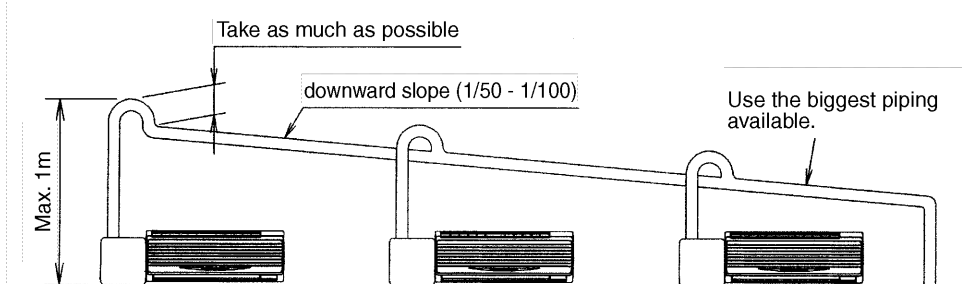
- Be sure to use adhesive to connect the soft drain pipe (accessory 14) and the ceiling-side locally-procured the drain pipe.
- Connections on the drain pump kit should be secured with a clamp (accessory 8) and wrapped with insulation material (accessory 6).

- Caution**
- Exit piping parts must be procured locally.
 - Be sure to insulate the drain piping.
 - Give the horizontal sections on the drain piping a downward slope of at least 1/100 and make sure no air bubbles accumulate.
 - Secure long horizontal sections with support clamps to prevent them from shaking.



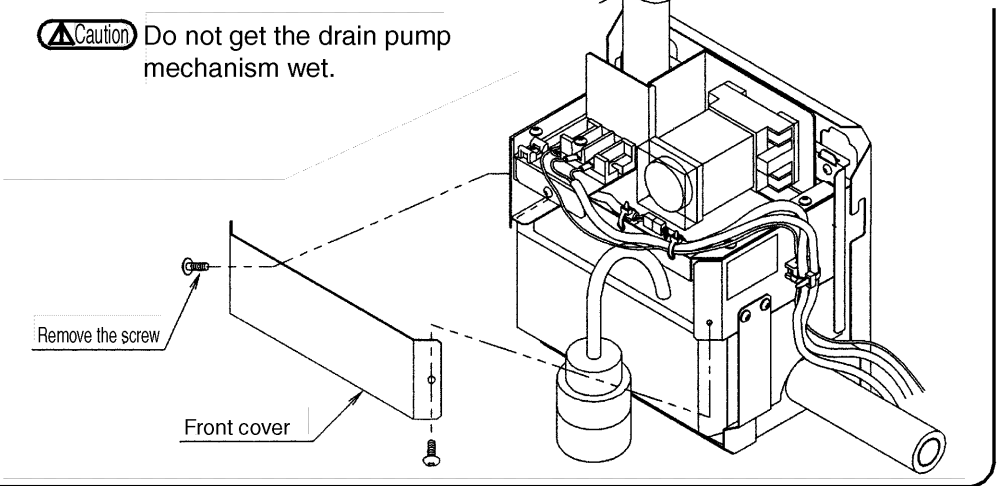
[When using centralized piping]

- Follow the figure below to make sure there is absolutely no back-up when using centralized piping.



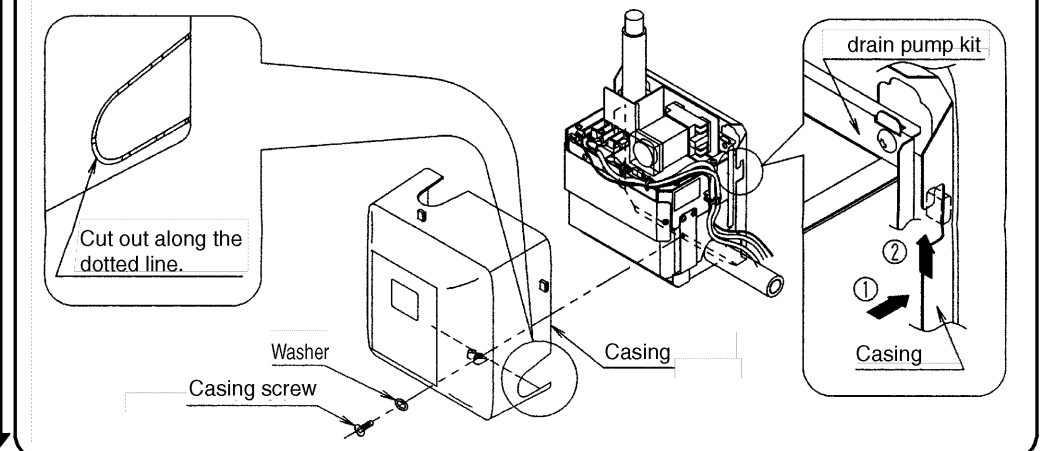
7 Test run

- Make sure the pump is running and water is draining.
 - Make sure there are no leaks from the drain pipes when draining.
1. Remove the front cover on the drain pump kit and fill the drain pan halfway with water.
 2. Turn on the power to make sure the drain pump is working properly and the drain water is flowing smoothly.
 3. After checking, replace the front cover.
 4. Rebuild the indoor unit as it was.



8 Attaching the casing

- Cut out the piping exit hole from the casing.
- Secure the casing with the installation screws and washers as described below.



9 Completion check

Be sure to check the following after completion.

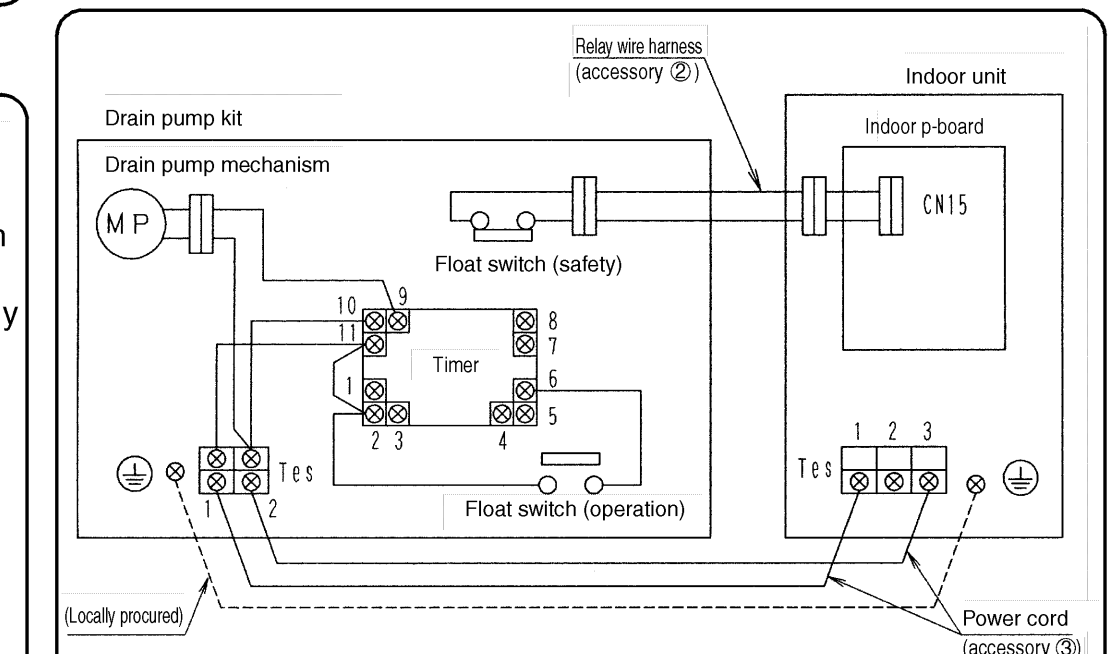
Check items	Check column
Is the indoor unit or the drain pump kit tilted to one side?	
Are all drain pipes connected properly? Are there any leaks?	
Is the drain pipe sloped downward? (1/50~1/100)	
Is the drain hose insulated?	
Is all the wiring correct?	

After test running the air conditioner, use the cooling and check the sound of the drain pump kit.

10 Cautions during operation

- The pump repeatedly stops operating with the float switch during cooling.
- After cooling is stopped, the residual water will be drained out, so do not turn off the power immediately.
- Wait at least five minutes after the unit has stopped before turning off the power. The drain pump will stop after residual operation if the power is not turned off. The air conditioner will stop when the safety circuits are activated.
- If water leaks out of the air conditioner or drain pump cap during cooling, stop the unit immediately.
- The drain exit may be clogged or the safety circuits may not be working properly, so please contact your dealer.

Electric wiring



The earth wire (copper) should be at least 2.0mm² or φ 1.6mm.
When the float switch (safety) is connected, remove the CN15 short-circuit connector.