

Drain Pump Unit  
For Duct Type  
INSTALLATION INSTRUCTION  
SHEET

(PART NO. 9378754010)

For authorized service personnel only.

|  |                |  |
|--|----------------|--|
|  | <b>DANGER</b>  | This mark indicates procedures which, if improperly performed, are most likely to result in the death of or serious injury to the user or service personnel. |
|  | <b>WARNING</b> | This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.  |
|  | <b>CAUTION</b> | This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.                    |

|   |  |
|---|--|
| <b>DANGER</b>   |  |
| Never touch electrical components immediately after the power supply has been turned off. Electrical shock may occur. After turning off the power, always wait 5 minutes or more before touching electrical components. |  |

|  |  |
|--|--|
| <b>WARNING</b>   |  |
| ① For the air conditioner to operate satisfactorily, install as outlined in this installation instruction sheet.   |  |
| ② Connect the indoor unit and drain pump unit with the air conditioner hose and cords available standards parts. This installation instruction sheet describes the correct connections using the installation set available from our standard parts. |  |
| ③ Installation work must be performed in accordance with national wiring standards by authorized personnel only.   |  |
| ④ Do not turn on the power until all installation work is complete.  |  |

|   |  |
|---|--|
| <b>CAUTION</b>  |  |
| ① Install a drain pump unit to each indoor unit. If one drain pump unit is connected to multiple indoor units, leakage may occur.   |  |
| ② Do not exert excess pressure, for example when holding the supplied drain hose. Otherwise the drain hose may come off and cause injuries.   |  |
| ③ Do not turn off the power supply for 5 minutes after the operation has been stopped. Otherwise the remaining drain water may not be drained and leakage may occur.  |  |
| ④ If leakage occurs from the interior of the indoor unit or drain pump unit during operation of the air-conditioner, stop the operation immediately. The drain outlet may be jammed and the safety circuit may not be working properly. Please contact your dealer. |  |

STANDARD PARTS

- The following installation parts are furnished. Use them as required.
- \* The parts numbers are the same as those indicated in the diagrams.

| Name and shape                 | Q'ty | Name and shape                 | Q'ty |
|--------------------------------|------|--------------------------------|------|
| Drain pump unit                | 1    | ③ Joint hose                   | 1    |
|                                |      | ⑨ Special nut A (Large flange) | 1    |
| Installation instruction sheet | 1    | ⑩ Special nut B (Small flange) | 1    |
| ① Hanger                       | 1    | ⑪ Insulation (hose)            | 1    |
| ② Bracket                      | 1    | ⑫ Binder clamp                 | 2    |
| ③ Tapping screw                | 8    | ⑬ Binder                       | 2    |
| ④ Insulation 40 x 26           | 1    | ⑭ Cord clamp                   | 1    |
| ⑤ Insulation 44 x 20           | 1    | ⑮ Wire clamp                   | 1    |
| ⑥ Screw                        | 1    | ⑯ Insulation A                 | 1    |
| ⑦ Hose band                    | 2    | ⑰ Insulation B                 | 1    |

TOOLS USED

- + Screwdriver, - Screwdriver, Spanner, Nipper

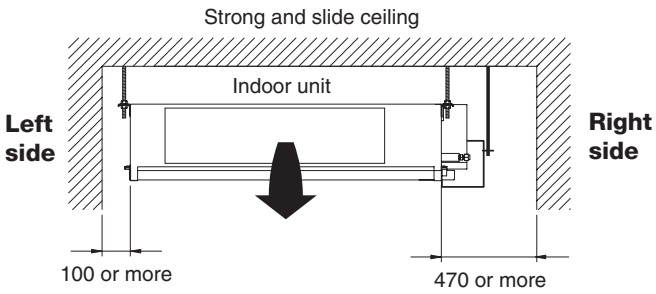
SELECTING THE MOUNTING POSITION

|   |  |
|---|--|
| <b>WARNING</b>  |  |
| Install at place that can withstand the weight of the drain pump unit and install positively so that the units will not topple or fall. |  |
| <b>CAUTION</b>  |  |
| • Do not install where there is the danger of combustible gas leakage.  |  |
| • Do not install the unit near heat source of heat, steam, or flammable gas.  |  |
| • If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.                    |  |
| • Take precautions to prevent the unit from falling.  |  |

Decide the mouting position with the custmer as follows;

- Install the unit level on a strong ceiling which is not subject to vibration.
- Do not install the unit where it will be exposed to direct sunlight.
- Leave the space required to service the unit.
- Providing as much space as possible between the unit and ceiling will make work much easier.
- Install the unit where the drain pipe can be easily installed.
- Set a maintenance hole near the drain pump unit.

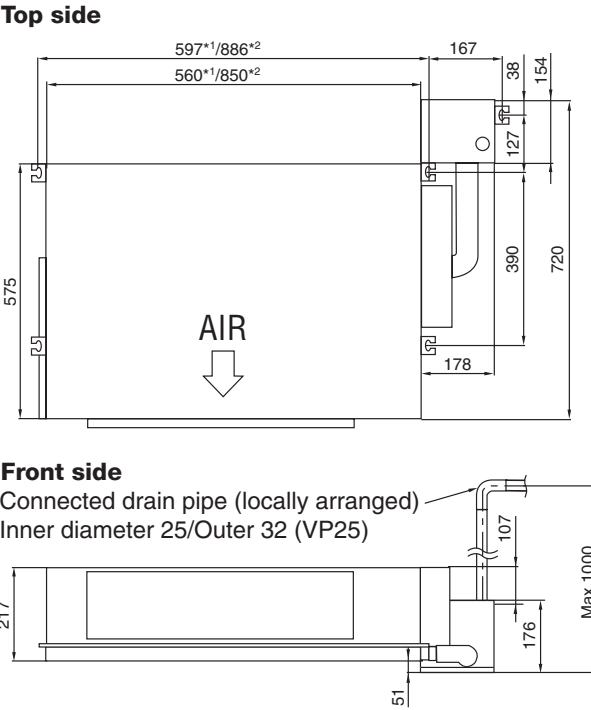
(Unit : mm)



HANGING BOLT INSTARATION DIAGRAM

This product is specially designed for ceiling concealed installation of the indoor unit. It cannot be connected when it is installed on the floor.

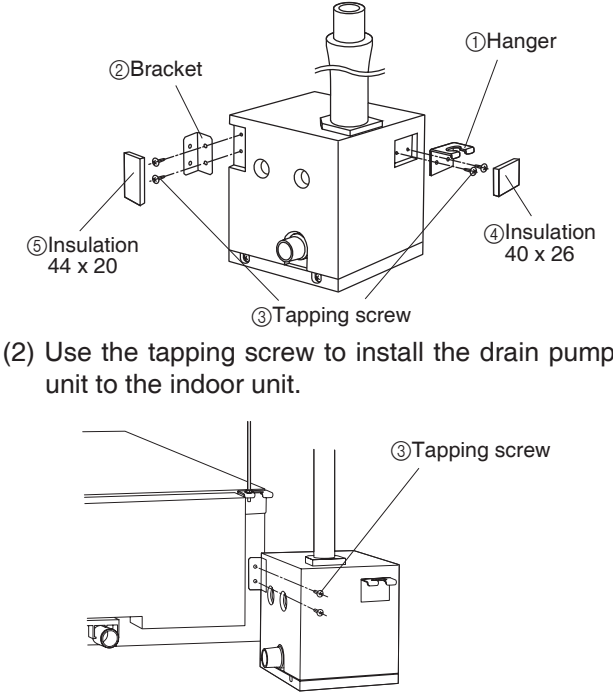
- Install four bolts for the indoor unit.
- Install one additional bolt for the drain pump unit.
- \* Install the bolts so that the weight of the drain pump unit is supported, and adjust the length until the ceiling surface.
- \*1: 7,000~9,000 BTU/h Model
- \*2: 12,000~24,000 BTU/h Model



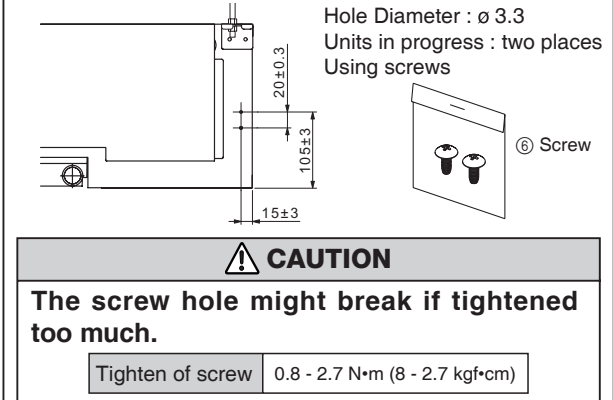
1 INSTALLATION PROCEDURES

1. Installing drain pump unit

- (1) Use the tapping screw to install the hanger and bracket to the drain pump unit. Then, paste the two types of insulation.

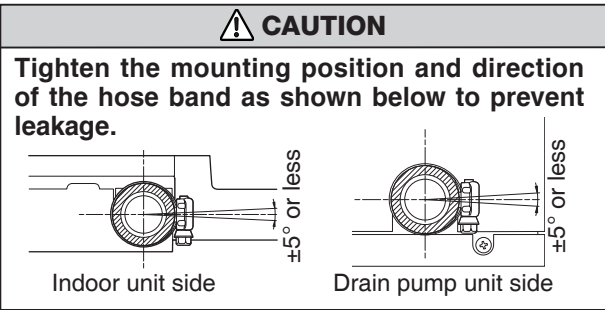
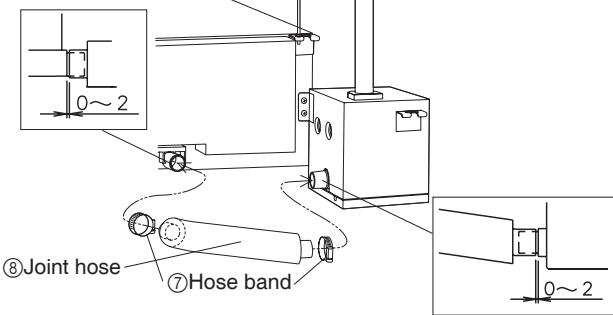


- When there is no screw hole
- Puncture holes at the following position and then install.
  - Use screws in the smaller bag when fixing the additional holes.

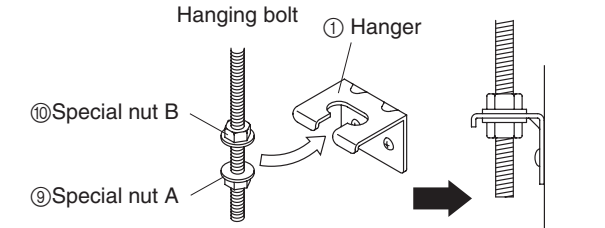


- (3) Thread the hose band through the joint hose, and insert it until it touches the drain pump unit and indoor unit.
- Do not glue the connection part of the joint hose.

(Unit : mm)



- (4) Use special nuts A and B to secure to the hanger of the drain pump unit.

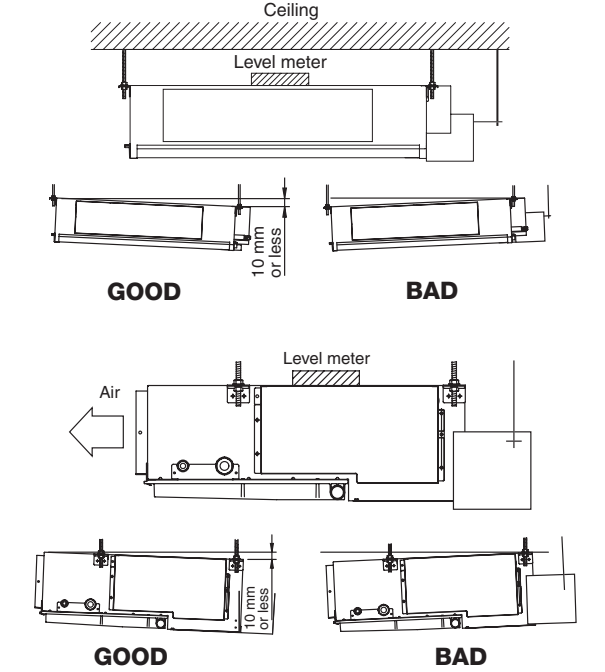


|   |  |
|---|--|
| <b>WARNING</b>                                      |  |
| Fasten the unit securely with special nuts A and B. |  |

2. Leveling

- Install the indoor unit and drain pump unit within the acceptable gradient range. Otherwise, the safety device will not work properly and leakage may occur.
- Never tilt the drain pump unit to the opposite side as it will result in leakage.

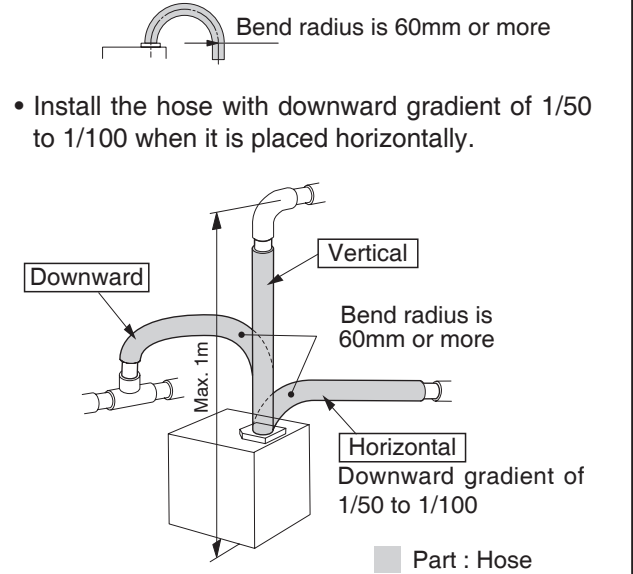
- Base horizontal direction leveling on top of the unit.



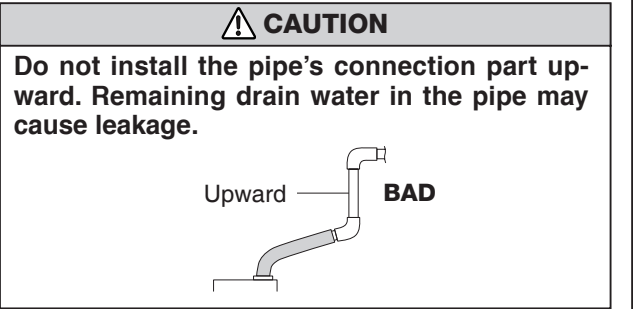
2 DRAINAGE CONSTRUCTION

1. Installing hose

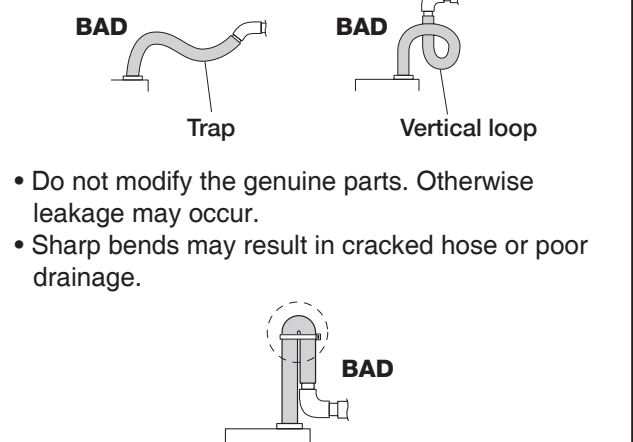
- The maximum vertical installation length is 1m.
- The hose can be installed when it is bent.
- \* Set the bend radius of the hose to be 60 mm or more.



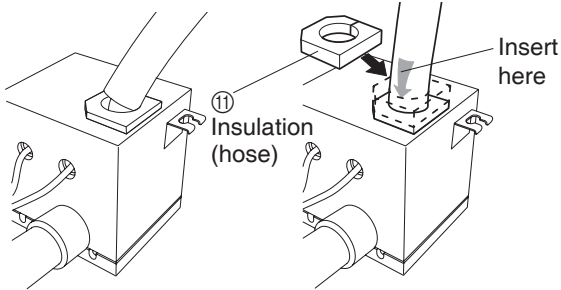
EXAMPLE OF WRONG CONSTRUCTION



- Adjust the hose so that there are no traps or vertical loops in the hose.

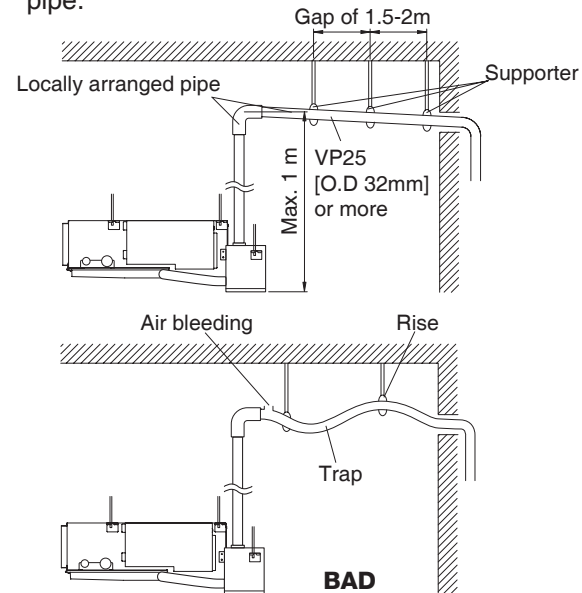


- When the insulation of the hose has come off during operation, insert into the insulation of the drain pump unit.
- Attach the insulation (hose) on the hose root.

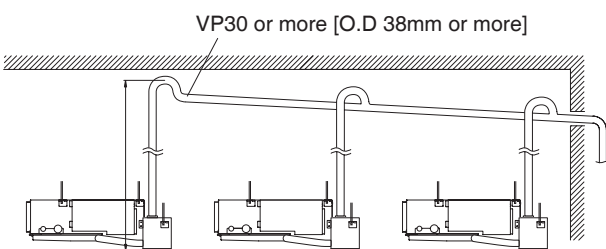


## 2. Installing pipe

- Install the drain pipe with downward gradient (1/50 to 1/100) and so there are no rises or traps in the pipe.
- Use general hard polyvinyl chloride pipe (VP25) [outside diameter 32 mm] and connect it with adhesive (polyvinyl chloride) so that there is no leakage.
- When the pipe is long. Install supporters.
- Do not perform air bleeding.
- Always heat insulate the indoor side of the drain pipe.



Observe the following procedures to construct centralized drain pipe fittings.



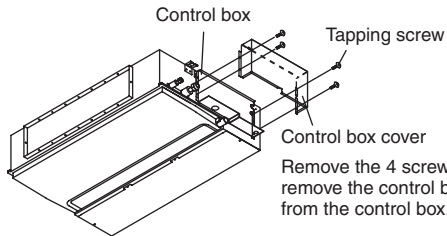
## 3 ELECTRICAL WIRING

### ⚠ WARNING

Before starting work, check that power is not being supplied indoor unit and outdoor unit.

### 1. Operation inside the control box

(1) Remove the Control box cover.



(2) The wiring lead-in hole and mounting position are different depending on the indoor unit.

a Power supply or In-Out connecting code  
Drain pump wire (Connector : Blue)

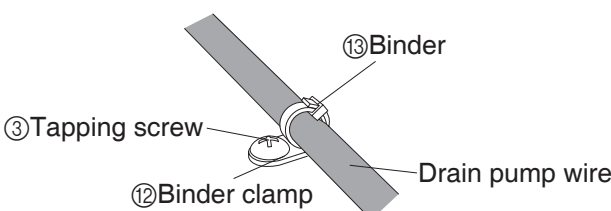
b Remote controller code  
Float switch wire (Connector : Red)

\*For a and b combinations, insert from the respective holes.

• For wiring other than the drain pump unit, follow the INSTALLATION INSTRUCTION SHEET of the indoor unit.

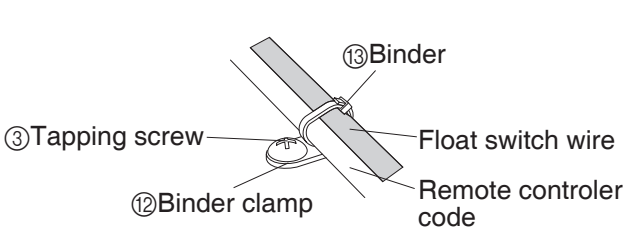
• Operation of mounting position “c”

Use the tapping screw to secure the binder clamp and the binder to tighten the drain pump wire.



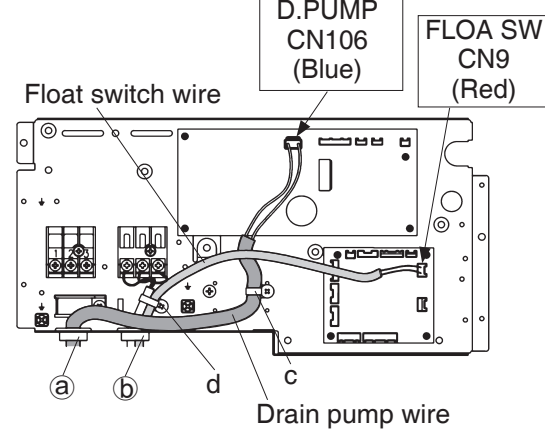
• Operation of mounting position “d”

Use the tapping screw to secure the binder clamp and the binder to tighten both the float switch wire and the remote controller code.



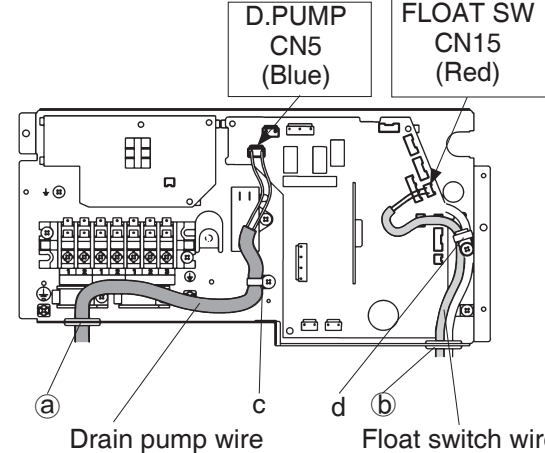
### • WIRING EXAMPLE

#### [BOARD TYPE A]



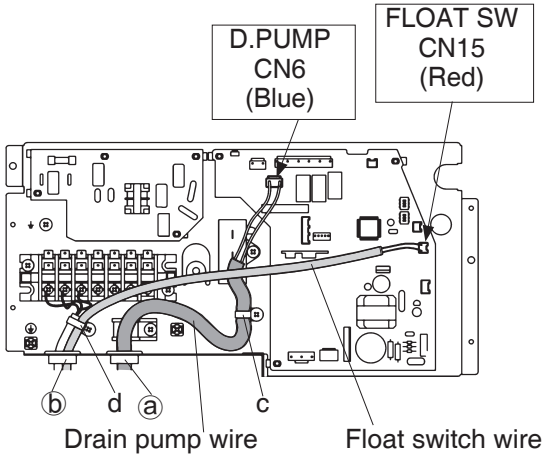
#### [BOARD TYPE B]

##### VRF model

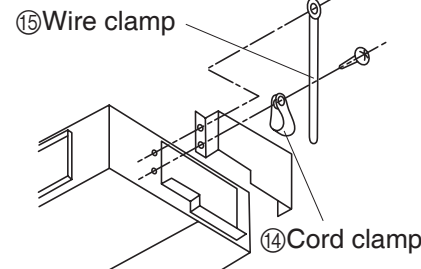


#### [BOARD TYPE B]

##### Models other than VRF



(3) Install the Control box cover to the Control box. When installing the control box cover, use the tapping screw to install the wire clamp and cord clamp.



### 2. Operation outside the control box

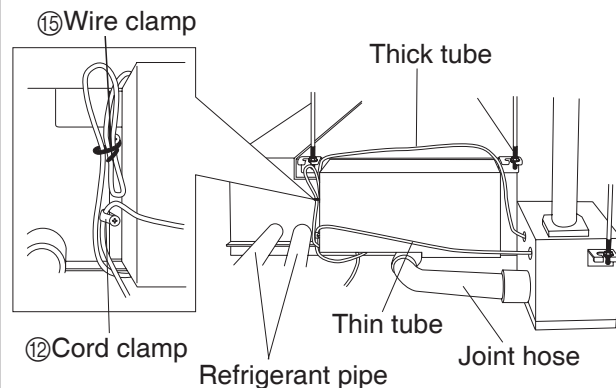
Secure the tube (wire) outside the control box.

#### • Thin tube (Float switch wire)

Thread the tube in front of the control box cover and use a cord clamp to secure so that it does not sag.

#### • Thick tube (Drain pump wire)

Thread the tube above the control box cover and use a wire clamp to bundle the tube so that it does not sag.

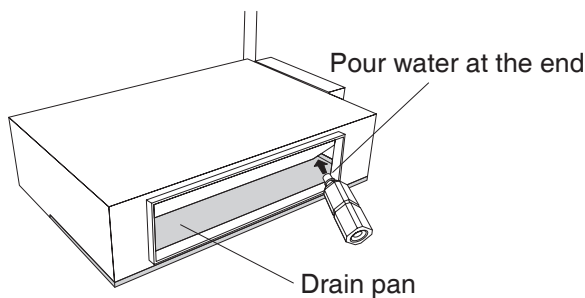


### ⚠ WARNING

Do not allow the tube to come into contact with the refrigerant pipe or joint hose as it may cause short circuit.

## 4 TEST RUNNING

- Turn on the power supply and gradually pour 750cc of water into the drain pan of the indoor unit. Verify that the water is drained properly. (As the socket part of the drain pump unit hose is transparent, you can check the water drainage here.)



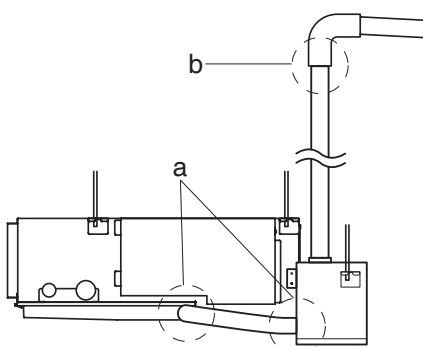
If the water accumulates in the drain pan of the indoor unit and does not drain off, it may be due to the following reasons. Check the construction again.

- The power of the air conditioner is not turned on
- You have forgotten to insert the drain pump/float switch wires
- The indoor unit is slanted

#### <Water leakage areas>

a: Both ends of the joint hose (Connection between indoor unit and drain pump unit)

b: Socket part of the drain pump unit (Connection with locally arranged pipes)



## 5 INSULATION OPERATION

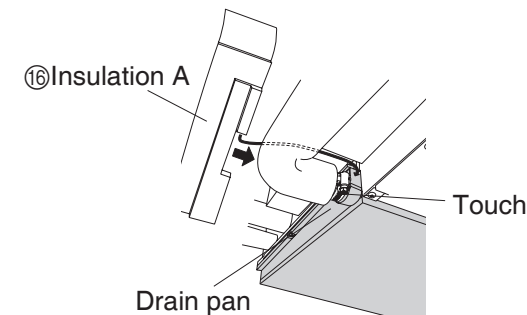
### ⚠ CAUTION

Be sure to install the insulation. Otherwise water leakage may occur.

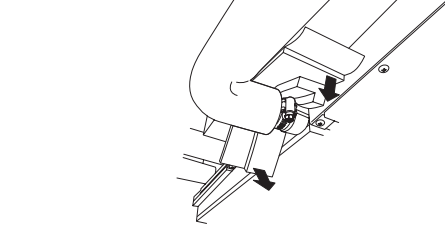
- Insulate both ends of the joint hose with the supplied insulation.

### 1. Indoor unit side

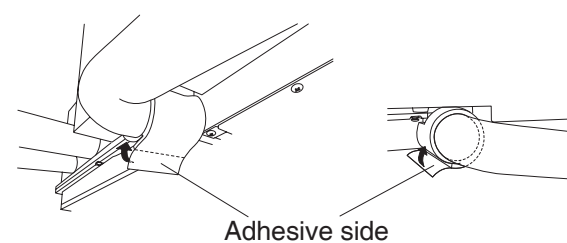
(1) Insert insulation A according to the shape of the drain pan of the indoor unit. Insert insulation A until it touches the drain pan.



(2) Wind insulation A while it is still touching the drain pan.

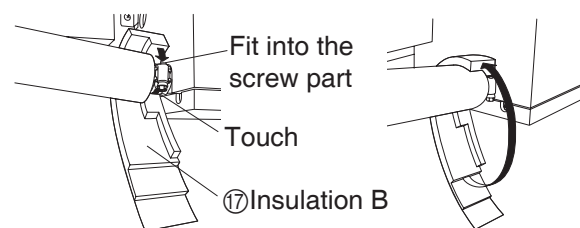


(3) Wind the adhesive side of insulation A securely.

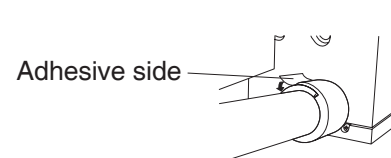


### 2. Drain pump unit side

(1) Fit the tip of insulation B into the screw part of the hose band and wind. Wind insulation B while it is still touching the drain pump unit.

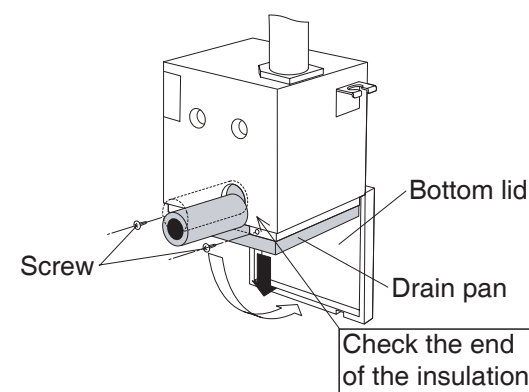


(2) Wind the adhesive side of insulation B securely.



### Maintenance during Off Season

- Clean the drain pump unit after every air conditioning season.
- Remove the screw and open the bottom lid to remove the drain pan.
- Check that the float is moving freely. If it does not move smoothly, wipe off the dirt.
- Wash off any dirt accumulated on the drain pan.
- After cleaning, return the items to their original positions and check that the insulation touches the drain pump unit.



### Final checks after construction

After construction is complete, check the following items again.

|   | Check Items   | Check Column |
|---|---|--------------|
| 1 | Is the indoor unit and drain pump unit on a horizontal level?                 |              |
| 2 | Is the drain pipe securely connected?<br>Is there any possibility of leakage? |              |
| 3 | Is there any trap in the hose of the drain pump unit?                         |              |
| 4 | Is the hose of the drain pump unit on a downward gradient? (1/50 to 1/100)    |              |
| 5 | Is the drain pipe on a downward gradient? (1/50 to 1/100)                     |              |
| 6 | Are both ends of the joint hose properly insulated?                           |              |
| 7 | Are there any wrong wirings?  |              |



Drain Pump Unit  
For Duct Type  
INSTALLATION INSTRUCTION  
SHEET

(PART NO. 9378754027)

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|   | <b>DANGER</b> |
| Never touch electrical components immediately after the power supply has been turned off. Electrical shock may occur. After turning off the power, always wait 5 minutes or more before touching electrical components. |               |

|  |                |
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|  | <b>WARNING</b> |
| ① For the air condtioner to operate satisfactorily, install as outlined in this installation instruction sheet.  |                |
| ② Connect the indoor unit and drain pump unit with the air conditioner hose and cords available standards parts. This installation instruction sheet describes the correct connections using the installation set available from our standard parts. |                |
| ③ Installation work must be performed in accordance with national wiring standards by authorized personnel only.   |                |
| ④ Do not turn on the power until all installation work is complete.  |                |

|  |                |
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|  | <b>CAUTION</b> |
| ① Install a drain pump unit to each indoor unit. If one drain pump unit is connected to multiple indoor units, leakage may occur.  |                |
| ② Do not exert excess pressure, for example when holding the supplied drain hose. Otherwise the drain hose may come off and cause injuries.  |                |
| ③ Do not turn off the power supply for 5 minutes after the operation has been stopped. Otherwise the remaining drain water may not be drained and leakage may occur.   |                |
| ④ If leakage occurs from the interior of the indoor unit or drain pump unit during operation of the air- conditioner, stop the operation immediately. The drain outlet may be jammed and the safety circuit may not be working properly. Please contact your dealer. |                |

STANDARD PARTS

- The following installation parts are furnished. Use them as required.
- \* The parts numbers are the same as those indicated in the diagrams.

| Name and shape                 | Q'ty | Name and shape                 | Q'ty |
|--------------------------------|------|--------------------------------|------|
| Drain pump unit                | 1    | ⑧ Hose band (Big)              | 1    |
|                                |      | ⑨ Joint hose                   | 1    |
| Installation instruction sheet | 1    | ⑩ Special nut A (Large flange) | 1    |
| ① Hanger                       | 1    | ⑪ Special nut B (Small flange) | 1    |
| ② Bracket                      | 1    | ⑫ Insulation (hose)            | 1    |
| ③ Tapping screw                | 5    | ⑬ Binder clamp                 | 1    |
| ④ Insulation 40 x 26           | 1    | ⑭ Binder                       | 2    |
| ⑤ Insulation 44 x 20           | 1    | ⑮ Wire clamp                   | 2    |
| ⑥ Insulation 35 x 35           | 1    | ⑯ Insulation A                 | 1    |
| ⑦ Hose band (Small)            | 1    | ⑰ Insulation B                 | 1    |

Tools Used

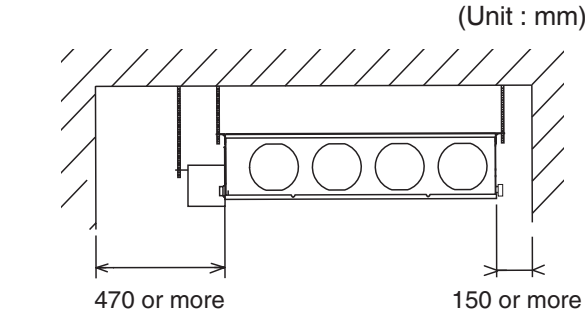
- + Screwdriver, - Screwdriver, Spanner, Nipper

SELECTING THE MOUNTING POSITION

|   |                |
|---|----------------|
|   | <b>WARNING</b> |
| Install at place that can withstand the weight of the drain pump unit and install positively so that the units will not topple or fall. |                |
|   | <b>CAUTION</b> |
| • Do not install where there is the danger of combustible gas leakage.  |                |
| • Do not install the unit near heat source of heat, steam, or flammable gas.  |                |
| • If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.                    |                |
| • Take precautions to prevent the unit from falling.  |                |

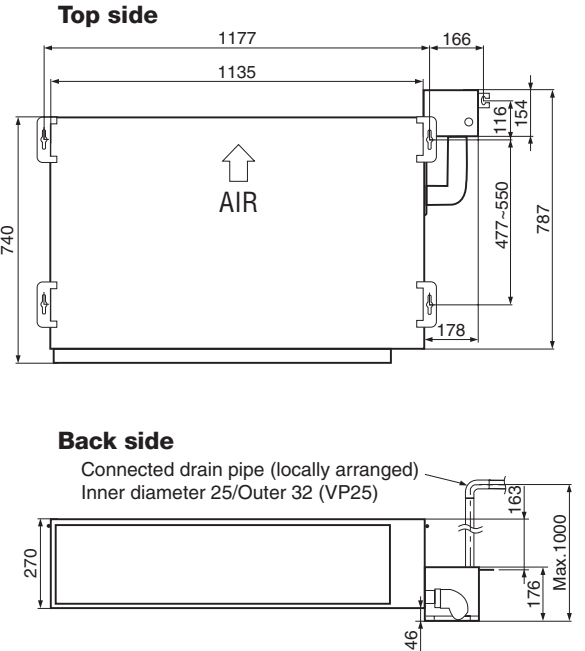
Decide the mouting position with the custmer as follows:

- Install the unit level on a strong ceiling which is not subject to vibration.
- Do not install the unit where it will be exposed to direct sunlight.
- Leave the space required to service the unit.
- Providing as much space as possible between the unit and ceiling will make work much easier.
- Install the unit where the drain pipe can be easily installed.
- Set a maintenance hole near the drain pump unit.



HANGING BOLT INSTARATION DIAGRAM

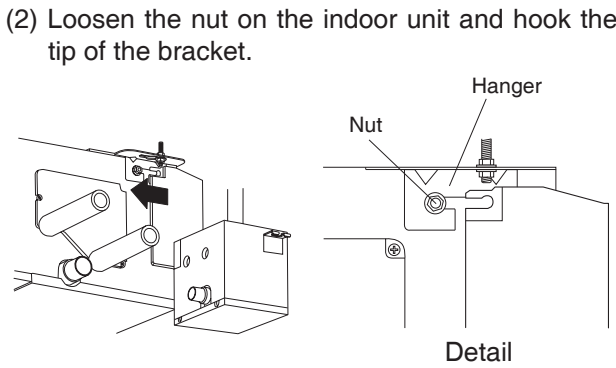
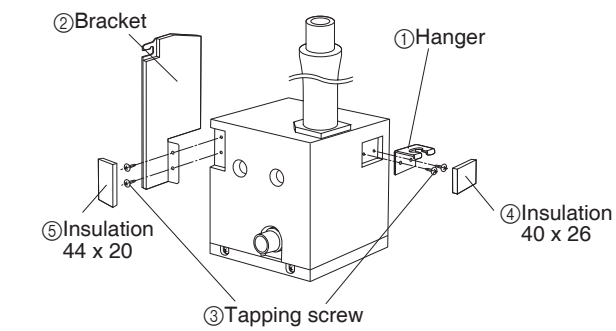
- Install four bolts for the indoor unit.
- Install one additional bolt for the drain pump unit.
- \* Install the bolts so that the weight of the drain pump unit is supported, and adjust the length until the ceiling surface.



1 INSTALLATION PROCEDURES

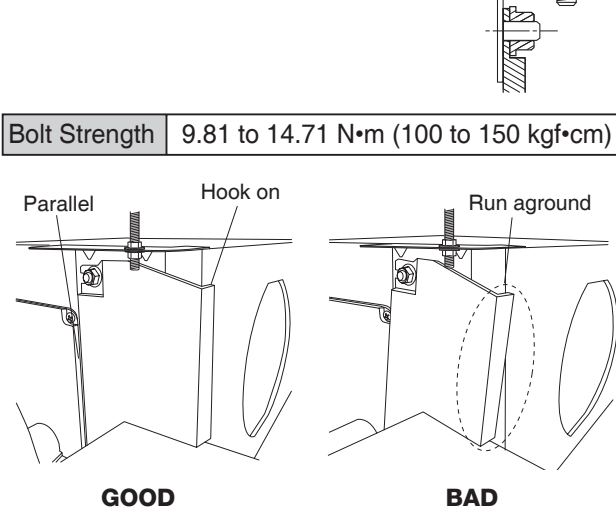
1. Installing drain pump unit

- (1) Use the tapping screw to install the hanger and bracket to the drain pump unit. Then, paste the two types of insulation.

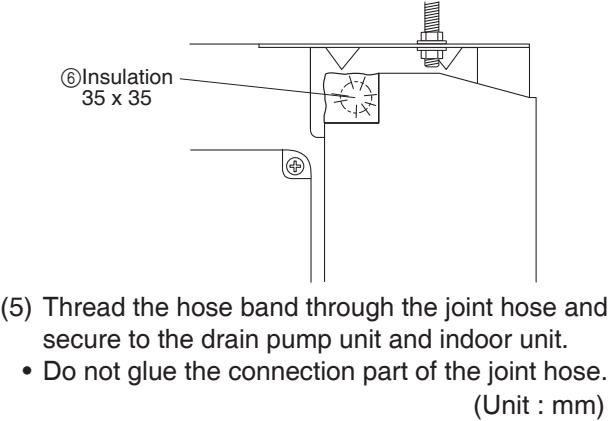


|  |                |
|--|----------------|
|  | <b>CAUTION</b> |
| If the nut is too loose, the hanger may come off and the indoor unit may fall off. Loosen the nut as shown in the right diagram until the tip of the bolt. |                |
|  |                |

- (3) Tighten the nut securely. Make sure that the drain pump unit is not slanted.

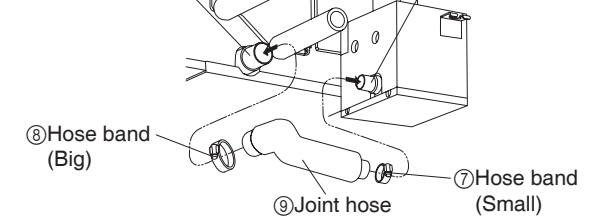


- (4) Paste the insulation so that the nut and the exposed part of the bracket are covered.



- (5) Thread the hose band through the joint hose and secure to the drain pump unit and indoor unit.

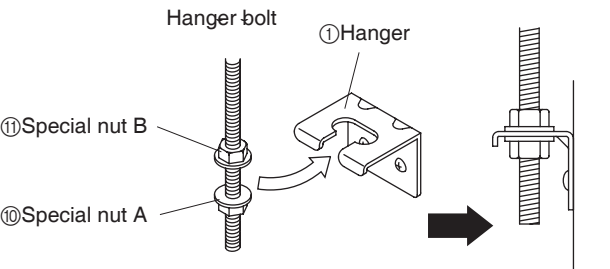
- Do not glue the connection part of the joint hose.



- \* Insert it until getting contact with the cabinet when the drain port is 20mm.

|   |                |
|---|----------------|
|   | <b>CAUTION</b> |
| Tighten the mounting position and direction of the hose band as shown below to prevent leakage. |                |
|   |                |

- (6) Use special nuts A and B to secure to the hanger of the drain pump unit.

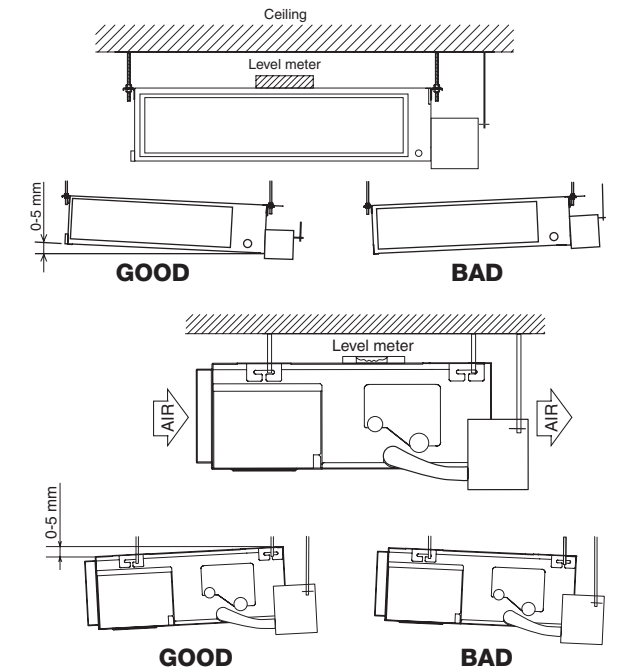


|   |                |
|---|----------------|
|   | <b>WARNING</b> |
| Fasten the unit securely with special nuts A and B. |                |

2. Leveling

|  |                |
|--|----------------|
|  | <b>CAUTION</b> |
| • Install the indoor unit and drain pump unit within the acceptable gradient range. Otherwise, the safety device will not work properly and leakage may occur. |                |
| • Never tilt the drain pump unit to the opposite side as it will result in leakage.  |                |

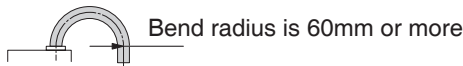
- Base horizontal direction leveling on top of the unit.



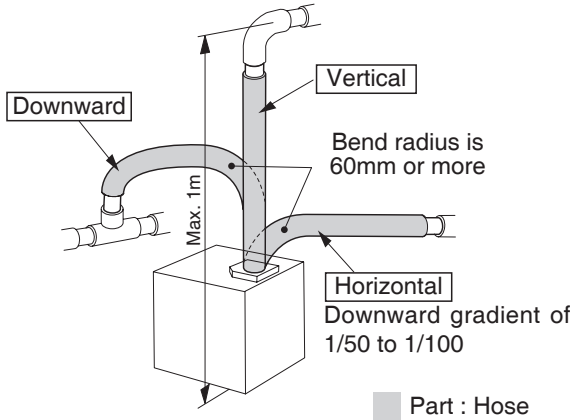
2 DRAINAGE CONSTRUCTION

1. Installing hose

- The maximum vertical installation length is 1m.
- The hose can be installed when it is bent.
- \* Set the bend radius of the hose to be 60 mm or more.



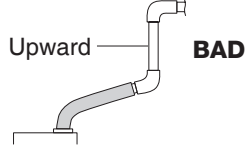
- Install the hose with downward gradient of 1/50 to 1/100 when it is placed horizontally.



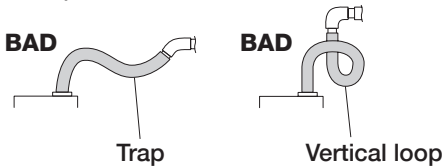
Example of Wrong Construction

CAUTION

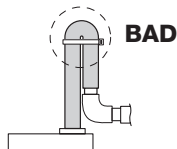
Do not install the pipe's connection part upward. Remaining drain water in the pipe may cause leakage.



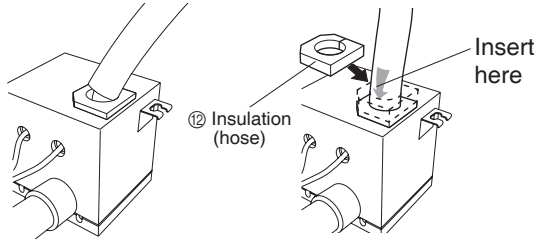
- Adjust the hose so that there are no traps or vertical loops in the hose.



- Do not modify the genuine parts. Otherwise leakage may occur.
- Sharp bends may result in cracked hose or poor drainage.



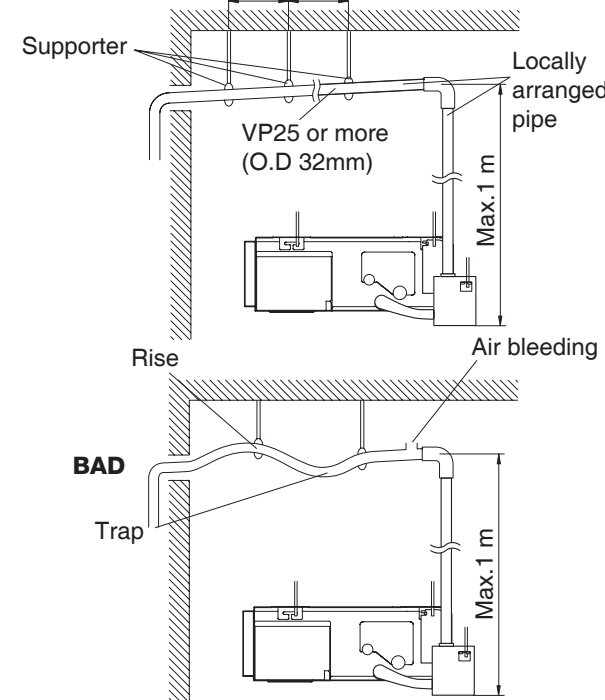
- When the insulation of the hose has come off during operation, insert into the insulation of the drain pump unit.



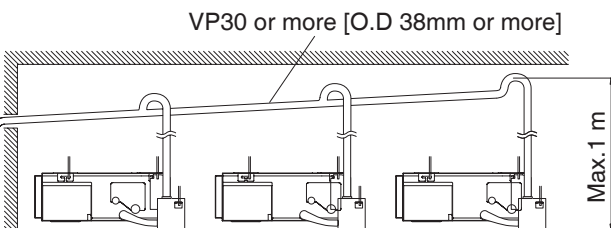
- Attach the insulation (hose) on the hose root.

2. Installing pipe

- Install the drain hose with downward gradient (1/50 to 1/100) and so there are no rises or traps in the pipe.
- Use general hard polyvinyl chloride pipe (VP25) [outside diameter 32 mm] and connect it with adhesive (polyvinyl chloride) so that there is no leakage.
- When the pipe is long, install supporters.
- Do not perform air bleeding.
- Always heat insulate the indoor side of the drain pipe.



Observe the following procedures to construct centralized drain pipe fittings.



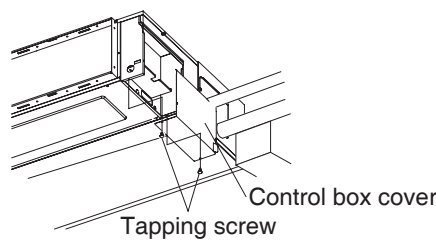
3 ELECTRICAL WIRING

WARNING

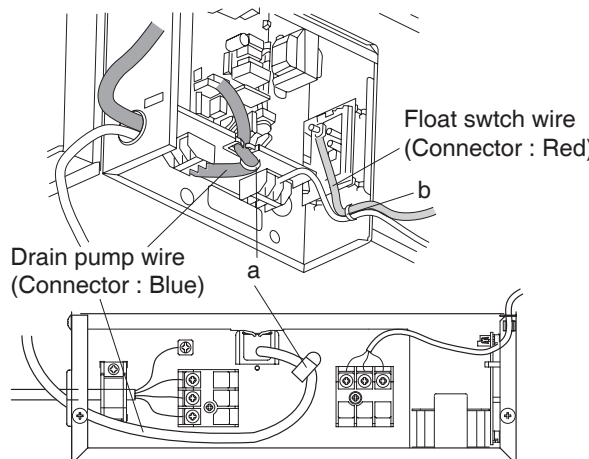
Before starting work, check that power is not being supplied indoor unit and outdoor unit.

1. Operation inside the control box

- (1) Remove the control box cover.

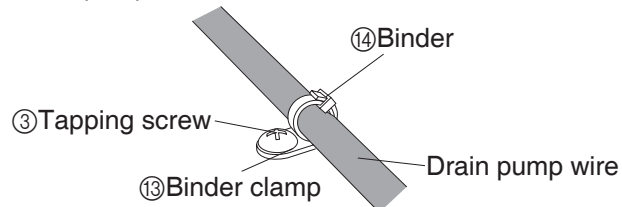


- (2) The position to insert the connector is different depending on the indoor unit. For wiring other than the drain pump unit, follow the INSTALLATION INSTRUCTION SHEET of the indoor unit.



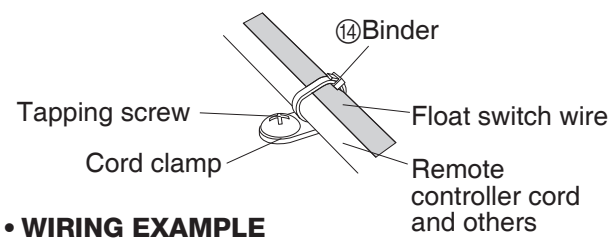
- Operation of mounting position "a"

Use the tapping screw to secure the binder clamp and the binder to tighten the drain pump wire.



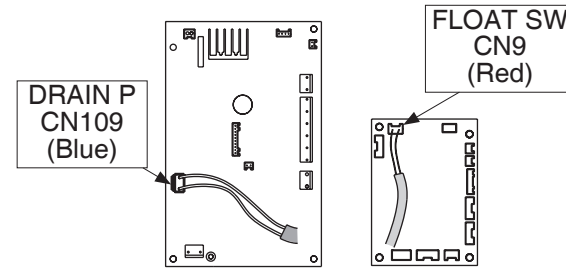
- Operation of mounting position "b"

Thread the binder through the cord clamp of the indoor unit and tighten both the float switch wire and the remote controller cord etc. (The type and number of wire vary depending on the model)

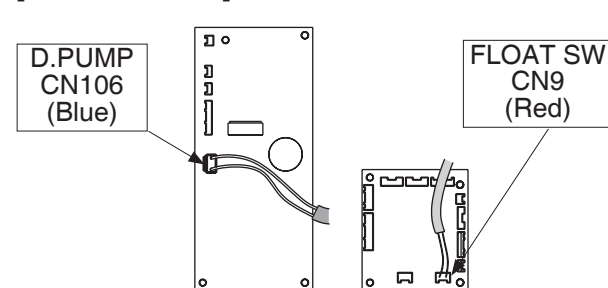


• WIRING EXAMPLE

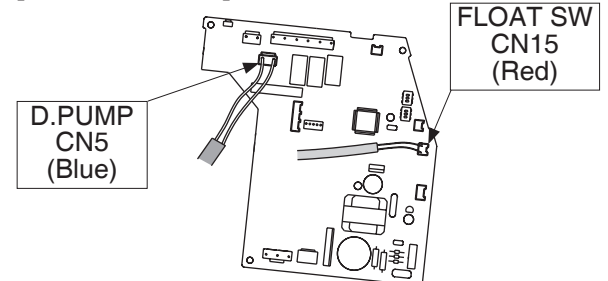
[BOARD TYPE A]



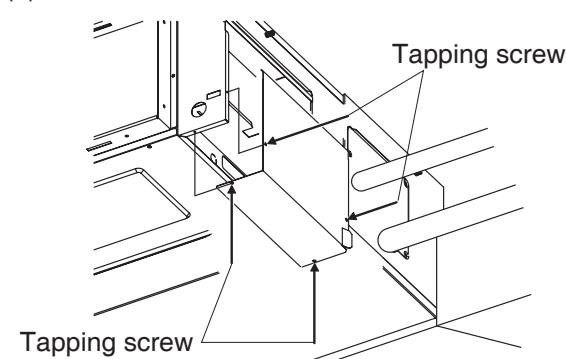
[BOARD TYPE B]



[BOARD TYPE C]



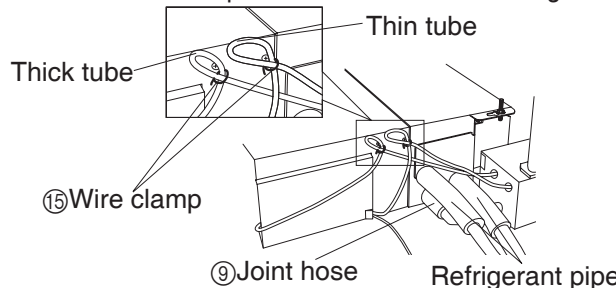
- (3) Install the Control box cover.



\* Tapping screws can be fixed from any position at side/lower side.

2. Operation outside the control box

- (1) Remove two screws of the indoor unit and secure the wire clamp.
- (2) Bundle the two tubes (wires) of the drain pump unit with a wire clamp so that the tubes do not sag.



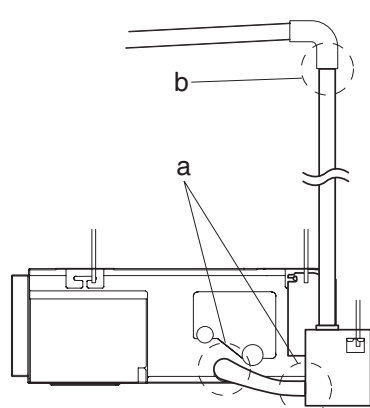
WARNING

Do not allow the tube to come into contact with the refrigerant pipe or joint hose as it may cause short circuit.

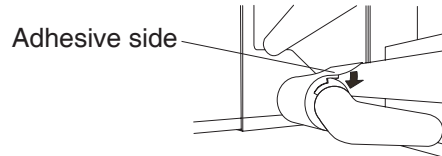
<Water leakage areas>

- a: Both ends of the joint hose (Connection between indoor unit and drain pump unit)

- b: Socket part of the drain pump unit (Connection with locally arranged pipes)

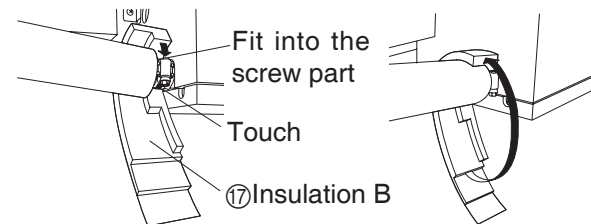


- (2) Wind the adhesive side of insulation A securely.

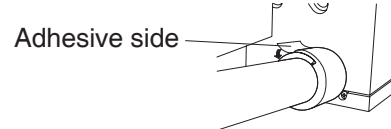


2. Drain pump unit side

- (1) Fit the tip of insulation B into the screw part of the hose band and wind. Wind insulation B while it is still touching the drain pump unit.

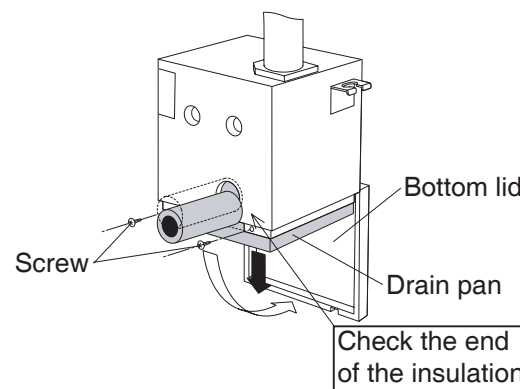


- (2) Wind the adhesive side of insulation B securely.



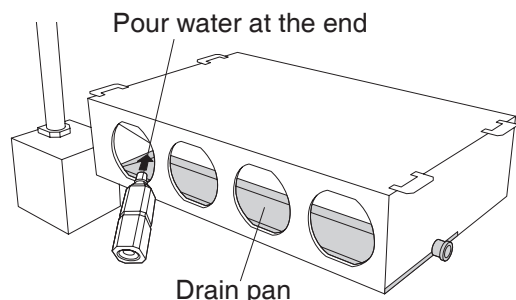
Maintenance during Off Season

- Clean the drain pump unit after every air conditioning season.
- Remove the screw and open the bottom lid to remove the drain pan.
- Check that the float is moving freely. If it does not move smoothly, wipe off the dirt.
- Wash off any dirt accumulated on the drain pan.
- After cleaning, return the items to their original positions and check that the insulation touches the drain pump unit.



4 TEST RUNNING

- Turn on the power supply and gradually pour 750cc of water into the drain pan of the indoor unit. Verify that the water is drained properly. (As the socket part of the drain pump unit hose is transparent, you can check the water drainage here.)



If the water accumulates in the drain pan of the indoor unit and does not drain off, it may be due to the following reasons. Check the construction again.

- The power of the air conditioner is not turned on
- You have forgotten to insert the drain pump/float switch wires
- The indoor unit is slanted

5 INSULATION OPERATION

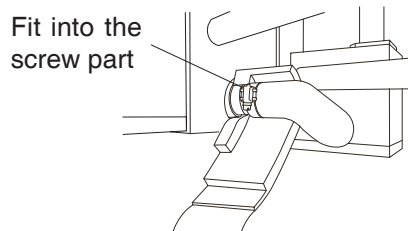
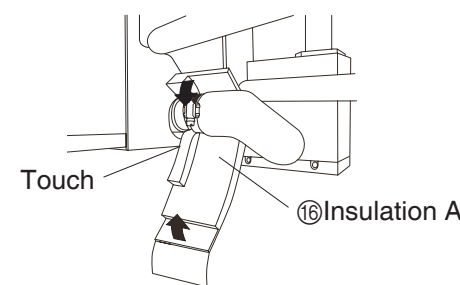
CAUTION

Be sure to install the insulation. Otherwise water leakage may occur.

- Insulate both ends of the joint hose with the supplied insulation.

1. Indoor unit side

- (1) Fit the tip of insulation A into the screw part of the hose band and wind. Wind insulation A while it is still touching the indoor unit.



Final checks after construction

After construction is complete, check the following items again.

|   | Check Items   | Check Column |
|---|---|--------------|
| 1 | Is the indoor unit and drain pump unit on a horizontal level?                 |              |
| 2 | Is the drain pipe securely connected?<br>Is there any possibility of leakage? |              |
| 3 | Is there any trap in the hose of the drain pump unit?                         |              |
| 4 | Is the hose of the drain pump unit on a downward gradient? (1/50 to 1/100)    |              |
| 5 | Is the drain pipe on a downward gradient? (1/50 to 1/100)                     |              |
| 6 | Are both ends of the joint hose properly insulated?                           |              |
| 7 | Are there any wrong wirings?  |              |