



**MITSUBISHI
ELECTRIC**

PAC-KE08DM-E

Air Conditioning For Building Application Drain Pump

Installation Manual

WT09146X01

This installation manual contains only the description of how to install the Drain pump PAC-KE08DM-E. For information about how to wire and how to install air conditioning units, see the installation manual for them.

For your safety, first be sure to read “**1 Safety Precautions**” described below thoroughly and then install the Drain pump PAC-KE08DM-E correctly.

1 Safety Precautions

- The following two symbols are used to denote dangers that may be caused by incorrect use and their degree:

⚠ WARNING	This symbol denotes what could lead to serious injury or death if you misuse the PAC-KE08DM-E.
⚠ CAUTION	This symbol denotes what could lead to a personal injury or damage to your property if you misuse the PAC-KE08DM-E.

- After reading this installation manual, keep it in a place where the final user can see it anytime he or she wants to it. When someone moves, repairs or uses the PAC-KE08DM-E, make sure that this manual is forwarded to the final user.

⚠ WARNING

Always have the unit installed by Authorized Mitsubishi Representative or similar professional.
Improper installation by the user could result in problems such as water leakage, electric shock or fire.

Always use the designated cables and connect them properly. When connecting the terminals, make sure that external forces from the cable is not being conveyed to the terminal and then tighten it securely.
Improper or loose connections could cause excessive heat or fire.

Only use Mitsubishi-approved accessories, such as an air cleaner, humidifier or electric heater.
Always have such accessories installed by an Authorized Mitsubishi Representative or similar professional. Improper installation by the user may result in water leakage, electric shock or fire.

Install the unit according to this Installation Manual.
If the unit is installed improperly, water leakage, electric shock or fire may result.

Have all electric work performed by a properly licensed electrician. Electric work should be performed in strict adherence to procedures to this Installation Manual. Always provide a dedicated power supply.
If the capacity of the power supply is inadequate, it could result in problems such as electric shock or fire.

Never modify the unit and always have repairs performed by an Authorized Mitsubishi Representative.
Improper repair could result in problems such as water leakage, electric shock or fire.

⚠ CAUTION

PRECAUTIONS BEFORE INSTALLATION

Never use for special applications such as storing food, plants, precision equipment or art.
The quality of these items may deteriorate.

Never use the unit in special environments.
Special environments with high concentrations of oil, steam or sulfuric gases will reduce the performance of the air condition and cause its parts to deteriorate.

Never install the unit where run-off could result in damage.
If the humidity in the room exceeds 80% or if the drain becomes clogged, water may drain off of the indoor unit. When the unit is used for heating, there may be drainage from the outdoor unit. If required, provide collector drain for the outdoor unit.

Always provide adequate signal noise protection when installing in facilities such as hospitals and communication stations.
Equipment at these facilities, such as inverters, in-house generators, high-frequency medical equipment, two-way communication equipment, may cause the air conditioner to operate improperly. Conversely, the signal noise from the air conditioner may affect the operation of medical equipment and two-way communication equipment and this could interfere with the medical treatment being given a patient or cause disturbances or interference in video broadcasting equipment.

PRECAUTIONS BEFORE REMOVE AND ELECTRIC WORK

Route wiring so that there is no tension.
Tension could cause the wire to break and this could result in excessive heat or fire.

Dispose of packing materials properly.

Use care when transporting the unit.

- Always use two or more people for lifting a product weight 20 kg. or more.
- Some products are packaged with plastic wrapping bands. Never use these for lifting or transporting the product.
- Never touch the fins on the heat exchanger. They are sharp and could cause cuts.
- Never allow children to play with the plastic bags used for packaging. Always tear them up when disposing. A child could suffocate in these bags.

PRECAUTIONS BEFORE TEST RUN

Never touch the switch with wet hands.
Electric shock could occur.

Never operate the air conditioner with the panel or guard removed.
The hand could come in contact with rotating, hot or high-pressure components. They could cause electrical shock or entanglement.

Never operate the air conditioner with the air filter removed.
Particles will enter into the air conditioner and cause damage.

Never turn off the power supply immediately after stopping the unit.
Wait five minutes or more before turning off the power supply. Turning off the power supply before that time could result in water leakage or damage.

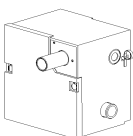


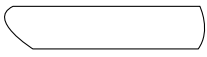

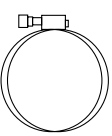



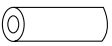
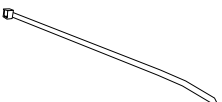
2 Confirming the Supplied Parts

1. Model names and applicable models

Model name	Applicable types
PAC-KE08DM-E	PEFY-W10VMS-A, PEFY-W15VMS-A PEFY-W20VMS-A, PEFY-W25VMS-A PEFY-W32VMS-A, PEFY-W40VMS-A PEFY-W50VMS-A

2. Provided parts

Check that the packet includes the following parts in addition to this installation manual.

Item	① DRAIN PUMP	② ATTACHMENT	③ DRAIN HOSE 1	④ PIPE COVER 1
Quantity	1	1	1	1
Shape			(385mm) 	(255mm) 
Item	⑤ PIPE COVER 2	⑥ HOSE BAND	⑦ SCREW	⑧ CLAMP
Quantity	1	2	3	3
Shape	(200mm) 			
Item	⑨ DRAIN HOSE 2	⑩ PIPE COVER 3	⑪ BAND	
Quantity	1	1	6	
Shape	(175mm) 		(380mm) 	

3 Installing the Drain Pump

3-1 Installing the Drain Pump

- (1) Unscrew the (a)screw on the unit cover, hook the ②ATTACHMENT over the mounting bracket on the unit, and screw it on to the unit with the (a)screw. (Fig. 1)

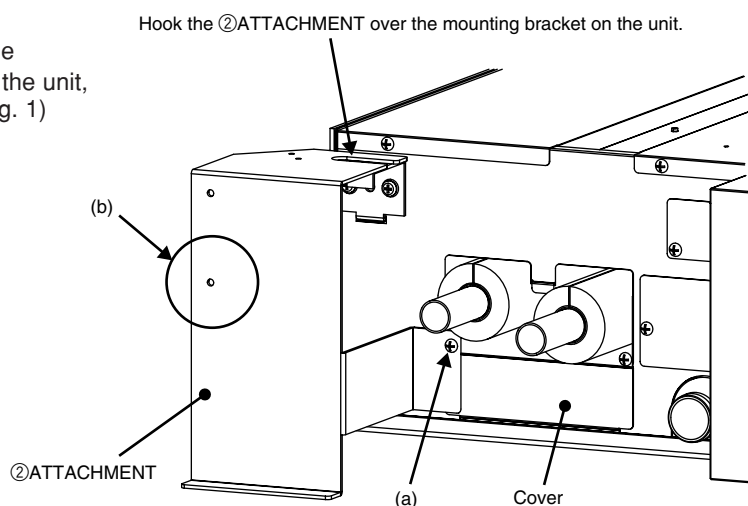


Fig. 1

- (2) Temporarily screw in the ⑦SCREW in the hole (b) on the ②ATTACHMENT. (Fig. 1 and 2)
- (3) Loosen the drain-pump-cover fixing screws, and remove the cover. (Fig. 3)

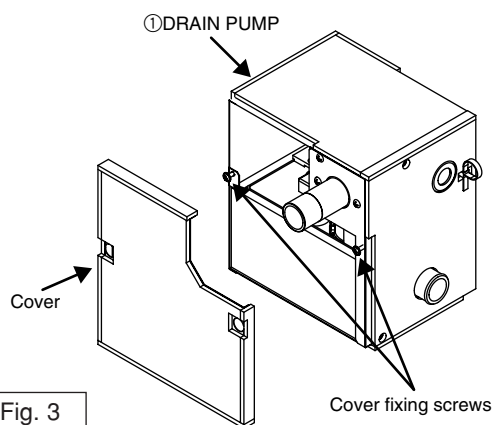


Fig. 3

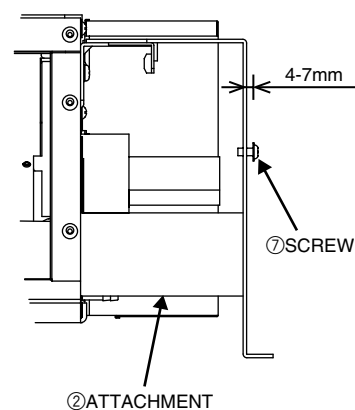


Fig. 2

- (4) Hang the ①DRAIN PUMP on the ②ATTACHMENT by placing the ⑦SCREW (the one screwed in during Step (2) above) through the hole (A) on back of the ①DRAIN PUMP, and then tighten the ⑦SCREW from inside the ①DRAIN PUMP. (Fig. 4)

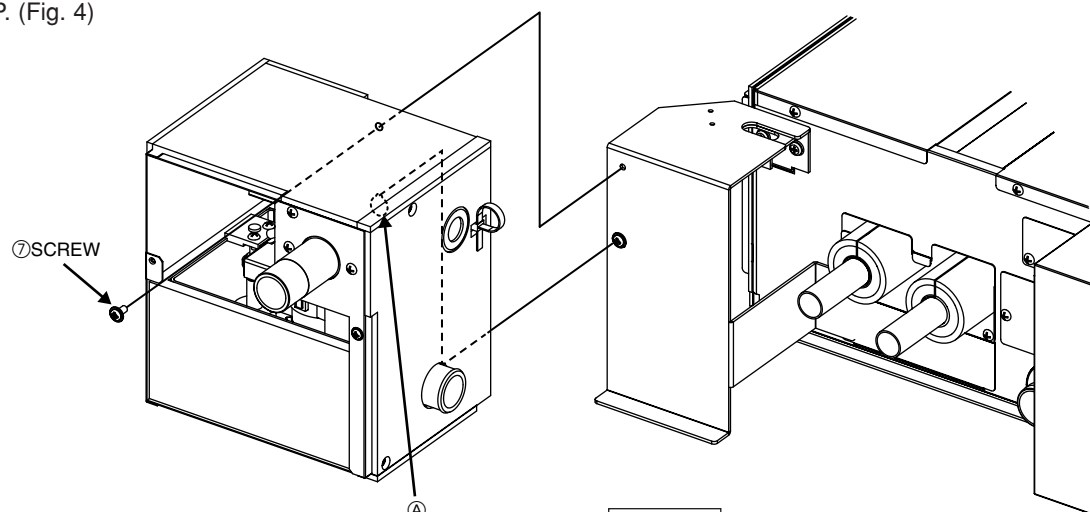


Fig. 4

3-2 Installing DRAIN HOSE 1

- (1) Connect each end of ③DRAIN HOSE 1 to the drain port on the unit and on the drain pump. (Fig. 5)
 - * Insert the hose all the way to the end of the ports.
 - * Do not use any adhesive.
 - * When installing the hose, avoid twisting the hose so that it slopes down for proper drainage.
- (2) Secure the hose with ⑥HOSE BANDS at both ends of the hose. (Fig. 5)

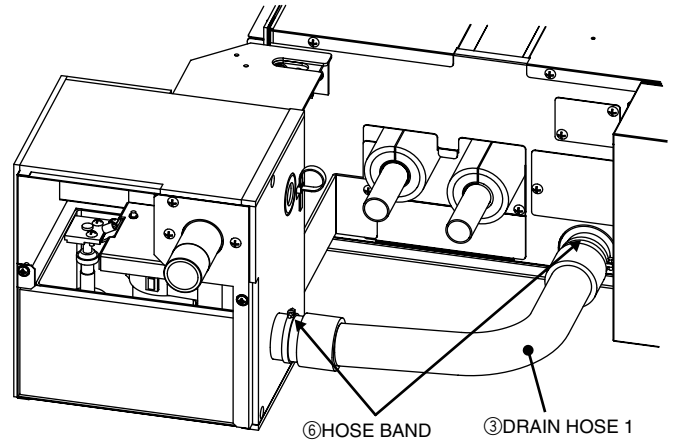


Fig. 5

- (3) Attach ④PIPE COVER 1 and ⑤PIPE COVER 2 to ③DRAIN HOSE 1 flush against each other and against the unit and the drain pump, and then secure them in place with ⑪BANDS. Wrap the pipe cover connection with vinyl tape to close the gap. (Fig. 6)

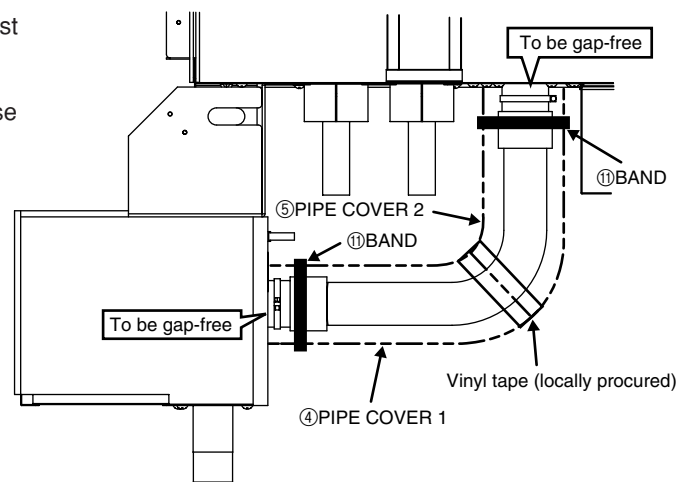


Fig. 6

3-3 Wiring connections

- (1) Remove the CONTROL BOX COVER from the unit by unscrewing the two screws on the cover. (Fig. 7)
- (2) Unscrew the (c)CONTROL BOX fixing screw. (Fig. 7)

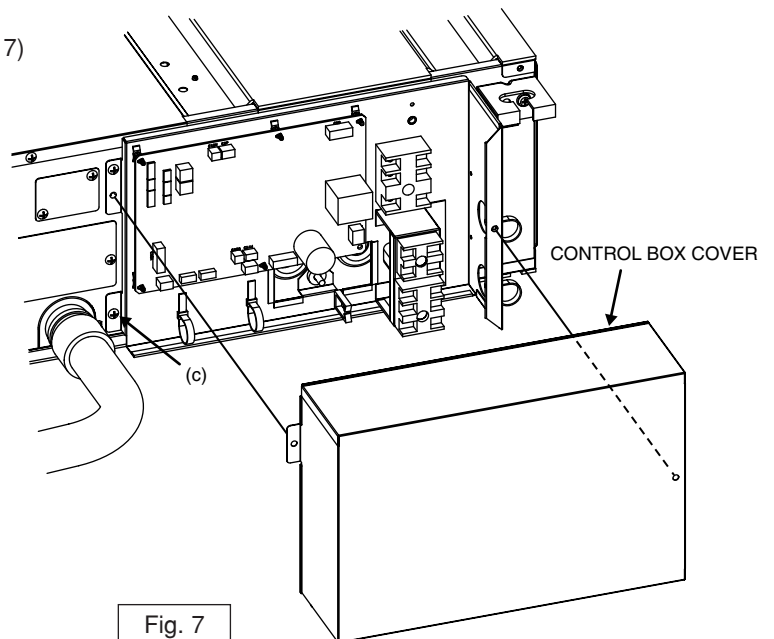


Fig. 7

- (3) Remove the short-circuit connector from CN4F on the control board (white, 4P). (Fig. 8)
- (4) Route the two drain pump wires behind the CONTROL BOX and into the CONTROL BOX. Lift the CONTROL BOX in the direction of the arrow (d) to allow the wires through. (Fig. 8)
※ Do not pinch the wires.
- (5) Connect the drain pump wire (connector: white, 3P) to CNP on the control board, and connect the float switch wire (white: 4P) to CN4F on the control board respectively. (Fig. 8)
- (6) Place the screw(c) that was removed in Step 3-3.(2) above back on. (Fig. 7)

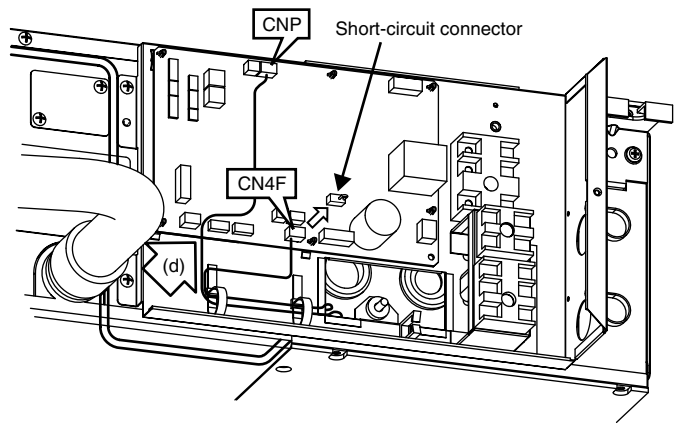


Fig. 8

- (7) Fix the two drain pump wires with ⑧CLAMPs to the unit. (Fig. 9)

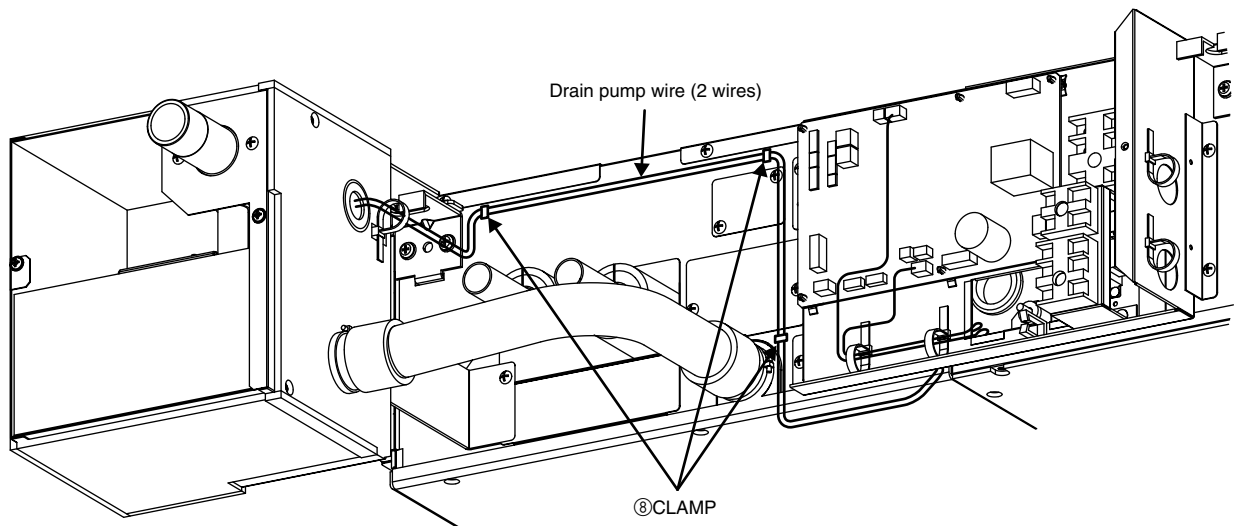
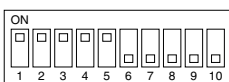
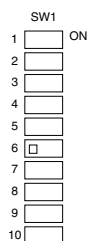


Fig. 9

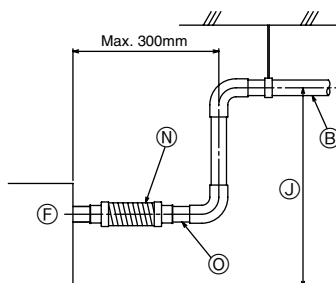
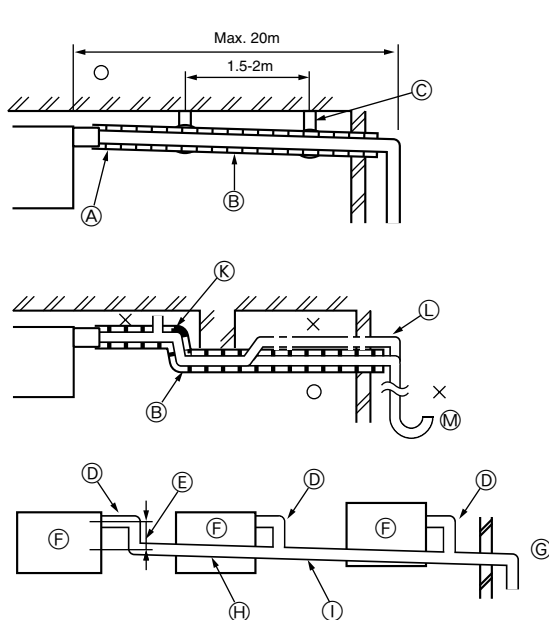
- (8) Set SW1-6 on the indoor unit P.C. board to OFF.



The figure at left shows that the switches 1 through 5 are set to ON and 6 through 10 are set to OFF.

4 Drain piping work

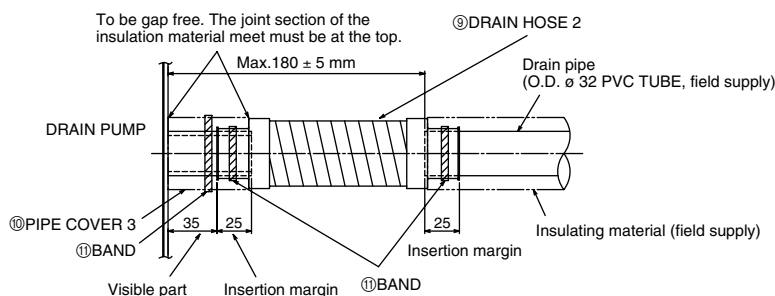
- Ensure that the drain piping is downward (pitch of more than 1/100) to the outdoor (discharge) side. Do not provide any trap or irregularity on the way.
- Ensure that any cross-wise drain piping is less than 20 m (excluding the difference of elevation). If the drain piping is long, provide metal braces to prevent it from waving. Never provide any air vent pipe. Otherwise drain may be ejected.
- Use a hard vinyl chloride pipe O.D. ϕ 32 for drain piping.
- Ensure that collected pipes are 10 cm lower than the unit body's drain port.
- Do not provide any odor trap at the drain discharge port.
- Put the end of the drain piping in a position where no odor is generated.
- Do not put the end of the drain piping in any drain where ionic gases are generated.



- Correct piping
- × Wrong piping
- (A) Insulation (9 mm or more)
- (B) Downward slope (1/100 or more)
- (C) Support metal
- (K) Air bleeder
- (L) Raised
- (M) Odor trap

- Grouped piping
- (D) O. D. ϕ 32 PVC TUBE
 - (E) Make it as large as possible. About 10 cm.
 - (F) Indoor unit (Drain pump)
 - (G) Make the piping size large for grouped piping.
 - (H) Downward slope (1/100 or more)
 - (I) O. D. ϕ 38 PVC TUBE for grouped piping. (9 mm or more insulation)
 - (J) Up to 580 mm
 - (N) Drain hose (accessory)
 - (O) Horizontal or slightly upgradient

- 4-1. Insert the ⑨DRAIN HOSE 2 into the drain port (insertion margin: 25mm).
(The drain hose must not be bent more than 45° to prevent the hose from breaking or clogging.)
(Attach the hose with glue for the hard vinyl chloride pipe, and fix it with the ⑪BAND.)
- 4-2. Attach the drain pipe (O.D. ϕ 32 PVC TUBE, field supply).
(Attach the pipe with glue for the hard vinyl chloride pipe, and fix it with the ⑪BAND.)
- 4-3. Perform insulation work on the drain pipe (O.D. ϕ 32 PVC TUBE) and on the socket (including elbow).
- 4-4. Check the drainage.
- 4-5. Attach the ⑩PIPE COVER 3 and, fix it with the ⑪BAND to insulate the drain port.



5 Confirming drain discharge

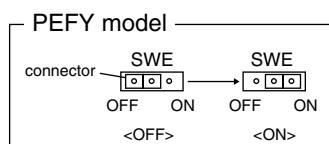
Make sure that the drain-up mechanism operates normally for discharge and that there is no water leakage from the connections.

- Be sure to confirm the above in a period of heating operation.
- Be sure to confirm the above before ceiling work is done in the case of a new construction.

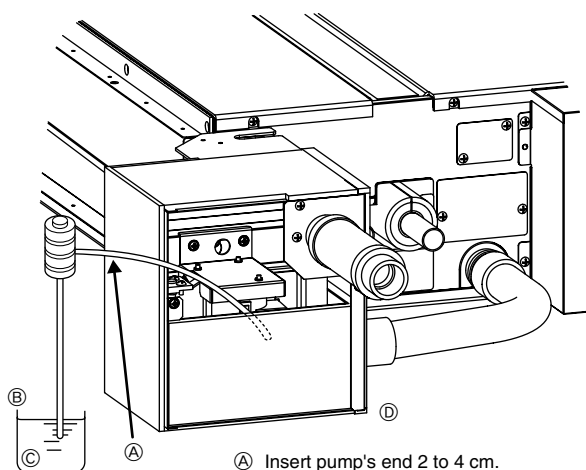
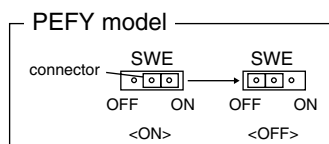
5-1. Fill water into the feed water pump using a feed water tank. In filling, be sure to put the end of the pump or tank in a drain pan. (If the insertion is incomplete, water may flow over the machine.)

※ Do not splash water on the drain pump coil or the float switch wire through hole when pouring water.

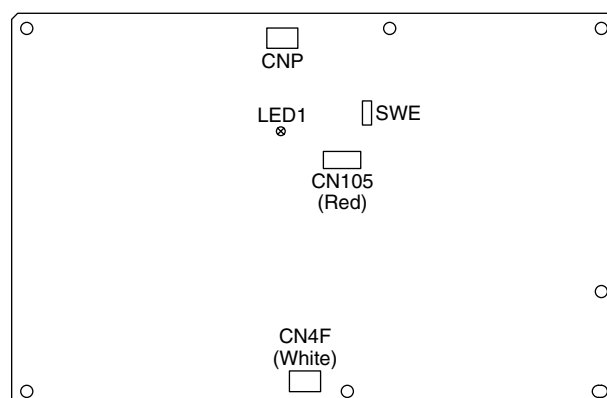
5-2. Perform the test run in cooling mode, or turn on the switch SWE on the controller circuit board. (The drain pump and the fan are forced to operate without any remote controller operation.) Make sure using a transparent hose that drain is discharged.



5-3. After confirmation, cancel the test run mode, and turn off the main power. When the switch SWE has been turned on, turn it off, and attach the CONTROL BOX COVER and the DRAIN PUMP COVER in the original positions.



- (A) Insert pump's end 2 to 4 cm.
- (B) About 2000 cc
- (C) Water
- (D) Do not splash water on the drain pump coil or the float switch wire through hole when pouring water.



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