

MITSUBISHI ELECTRIC

Air Conditioning For Building Application

Drain Water Lift-Up Kit PAC-KD02DM-FA



Installation Manual

This installation manual contains only the description of how to install the Drain water Lift-Up Kit PAC-KD02DM-FA. 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 water Lift-Up Kit PAC-KD02DM-FA 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-KD02DM-FA.
 CAUTION	This symbol denotes what could lead to a personal injury or damage to your property if you misuse the PAC-KD02DM-FA.

- 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-KD02DM-FA, 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.

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.

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.

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.

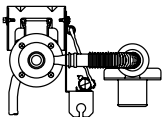
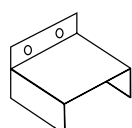





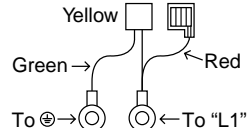
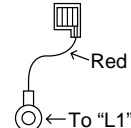
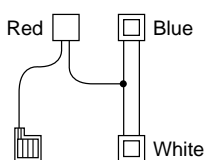
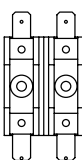
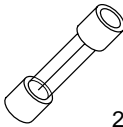

2 Confirming the Supplied Parts

1. Model names and applicable models

Model name	Applicable types
PAC-KD02DM-FA	PDFY-P20VM-A,PDFY-P25VM-A,PDFY-P32VM-A,PDFY-P40VM-A,PDFY-P50VM-A, PDFY-P63VM-A,PDFY-P71VM-A,PDFY-P80VM-A,PDFY-P100VM-A,PDFY-P125VM-A,
	PDFY-P20VM-E,PDFY-P25VM-E,PDFY-P32VM-E,PDFY-P40VM-E,PDFY-P50VM-E, PDFY-P63VM-E,PDFY-P71VM-E,PDFY-P80VM-E,PDFY-P100VM-E,PDFY-P125VM-E,
	PDFY-10NMU-A,PDFY-16NMU-A,PDFY-24NMU-A, PDFY-32NMU-A,PDFY-40NMU-A,PDFY-48NMU-A
	PDFY-P06NMU-E,PDFY-P08NMU-E,PDFY-P12NMU-E,PDFY-P15NMU-E,PDFY-P18NMU-E, PDFY-P24NMU-E,PDFY-P27NMU-E,PDFY-P30NMU-E,PDFY-P36NMU-E,PDFY-P48NMU-E

2. Provided parts

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

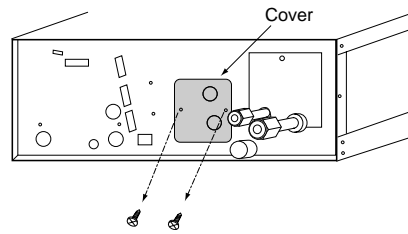
PARTS	① DRAIN PUMP ASSY.	② PUMP COVER ASSY.	③ RUBBER PLUG	④ BAND
SHAPE				
Q'TY	1	1	1	1
PARTS	⑤ PTT SCREW 4X10	⑥ SCREW 4X10	⑦ CONNECTOR	
SHAPE		 (Light brown)		
Q'TY	2	2	1	
PARTS	*⑧ WIRING ASSY. A1	*⑨ WIRING ASSY. A2	*⑩ WIRING ASSY. B	
SHAPE	 PDFY-10,16,24,32NMU-A PDFY-P08,P15,P24,P30NMU-E	 PDFY-40,48NMU-A PDFY-P36,P48NMU-E		
Q'TY	1	1	1	
PARTS	*⑪ FUSE HOLDER	*⑫ FUSE	*⑬ PTT SCREW 3.5X10	
SHAPE		 250V 5A		
Q'TY	1	1	1	

*⑧-⑬ ; Use for PDFY-10, 16, 24, 32, 40, 48NMU-A
PDFY-P08,P15,P24,P30,P36,P48NMU-E type only.

3 Attach the Drain Pump

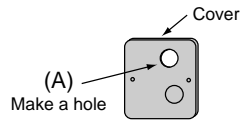
1. Cover removal

- (1) Remove the two screws used to attach the cover.
- (2) Remove the cover.

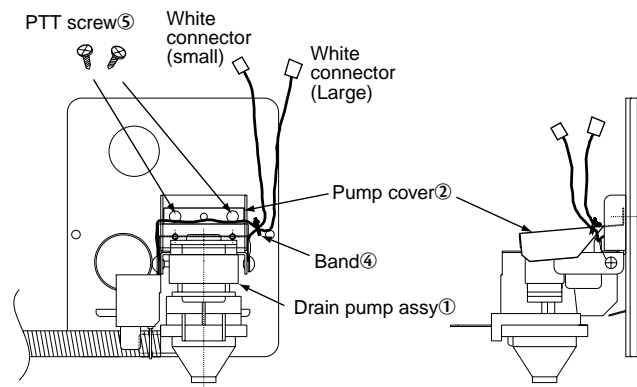


2. Attach the drain pump

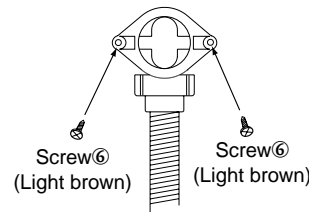
- (1) Make a hole in cover by removing cutout (A).



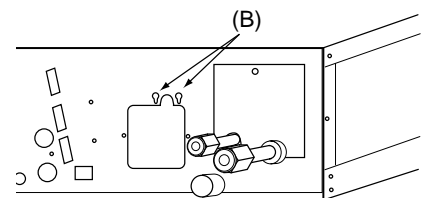
- (2) Attach the drain pump assembly① to the pump cover using the two PTT screws⑤.
- (3) Pull the lead with the white connector through the opening in the side of the pump cover②, pull the lead with the white connector over the top of the pump cover②, and then bind the two leads with a band④.



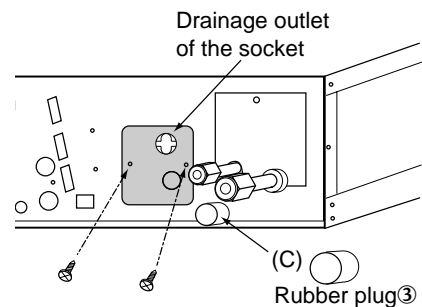
- (4) Temporarily turn in the light brown screws⑥ in the socket section of the drain assembly, 3 to 5 times.



- (5) From the inside of the unit, insert the slightly tightened screws⑥ through the screw holes shown by (B), and then slowly lower the assembly so that the screws slide into the notches.
- (6) While being careful not to twist the drain pump assembly tube, re-install the cover.
- (7) Finish tightening the light brown screws⑥.



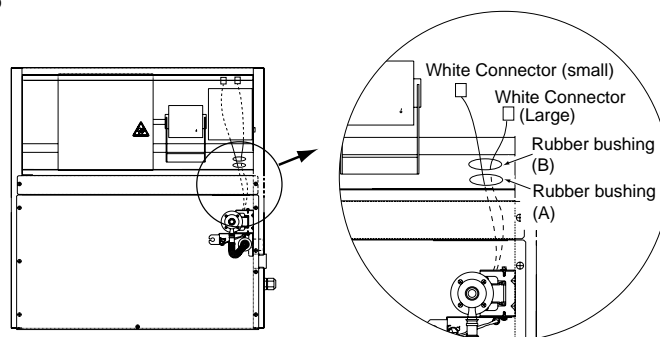
- (8) Pass the drainage outlet of the socket through hole (A) in the cover.
- (9) Attach the cover using the two screws.
- (10) Fully install the rubber plug③ onto the drainage outlet shown by (C).



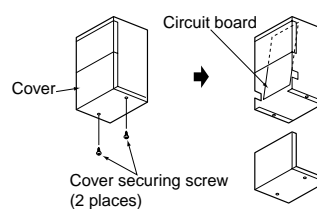
4 Wiring

[In the case of PDFY-P20~125VM-A and PDFY-P20~125VM-E]

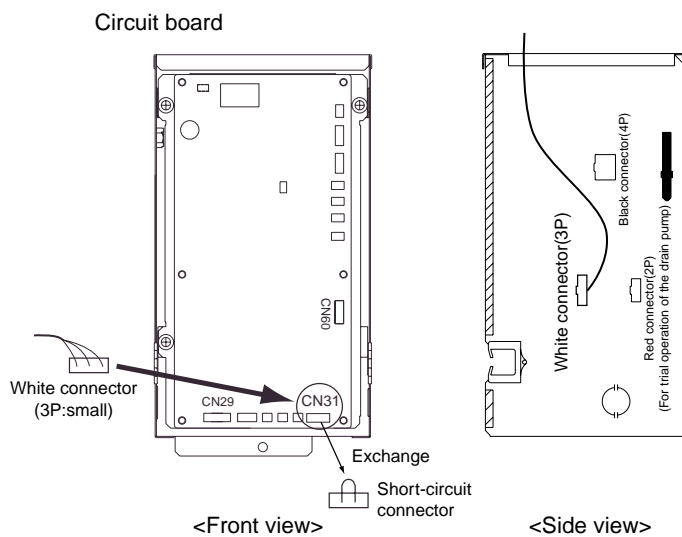
1. Pass the white connector (3P:small) of the drain pump assembly through rubber bushing (A) and the white connector (3P:Large) through rubber bushing (B).



2. Remove the screws, and then remove the control box cover.

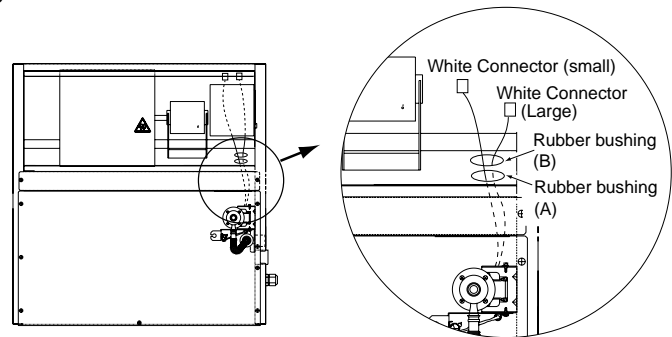


3. Remove the short-circuit connector at CN31 on the circuit board and insert the white connector (3P:small) of the drain pump assembly.
4. Insert the white connector(Large) on one of the leads of the drain pump assembly into the white relay connector at the side of the control box.
5. If there is slack in the leads, bind them with the clip on the control box.

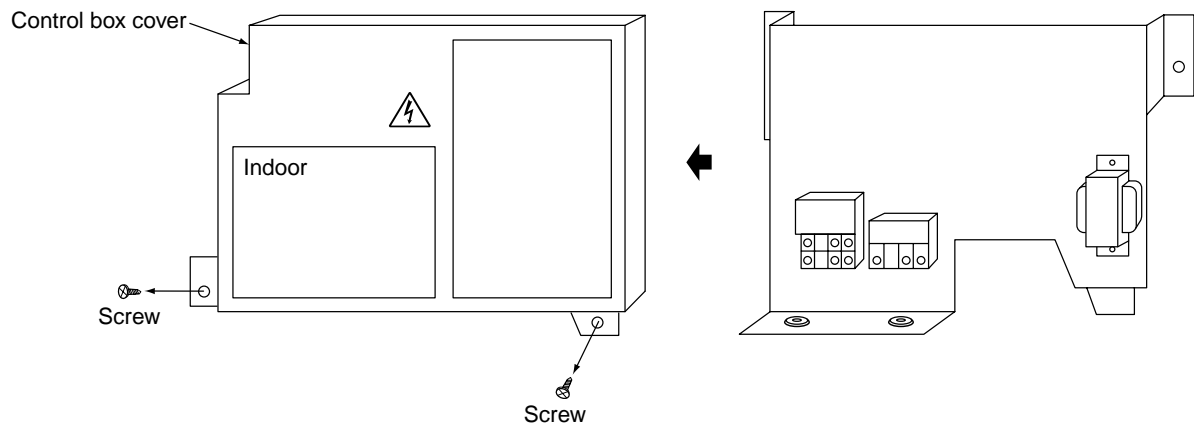


[In the case of PDFY-10, 16, 24, 32, 40, 48NMU-A and PDFY-P06, P08, P12, P15, P18, P24, P27, P30, P36, P48NMU-E]

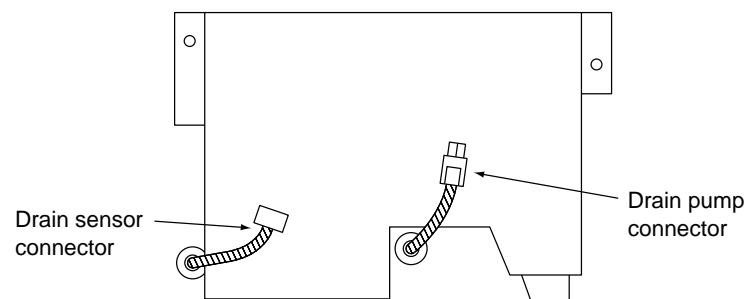
1. Pass the white connector (3P:small) of the drain pump assembly through rubber bushing (A) and the white connector (3P:Large) through rubber bushing (B).



2. Remove the screws, and then remove the control box cover.



3. Run the drain pump and drain sensor wires through the holes shown below.



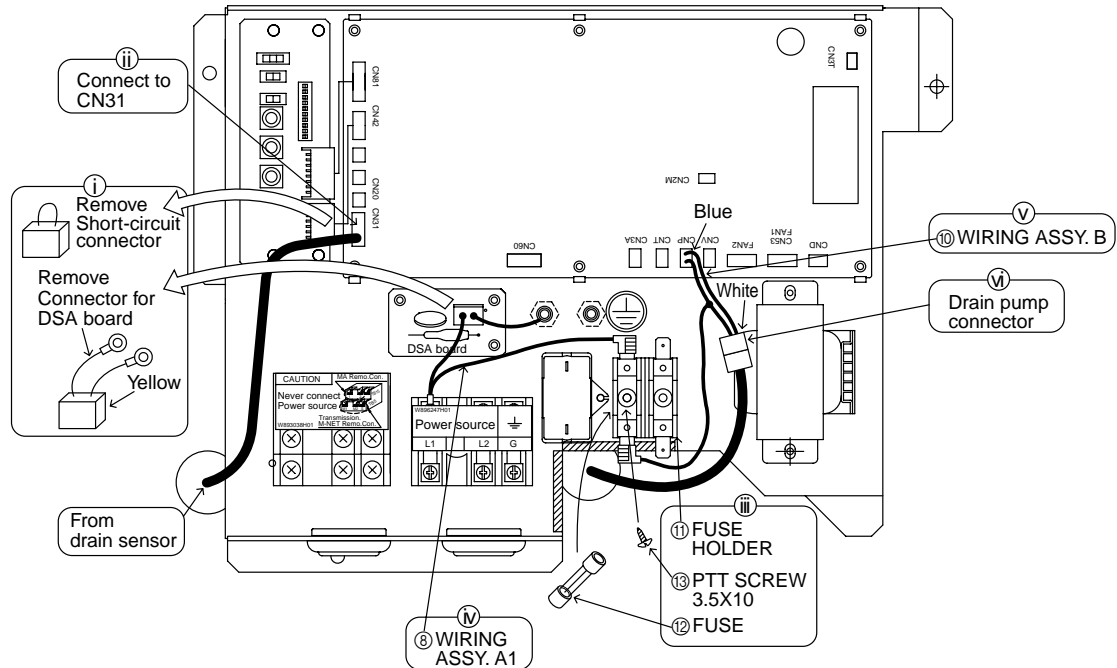
4. Connect the wires as shown in the figures below.

Procedures

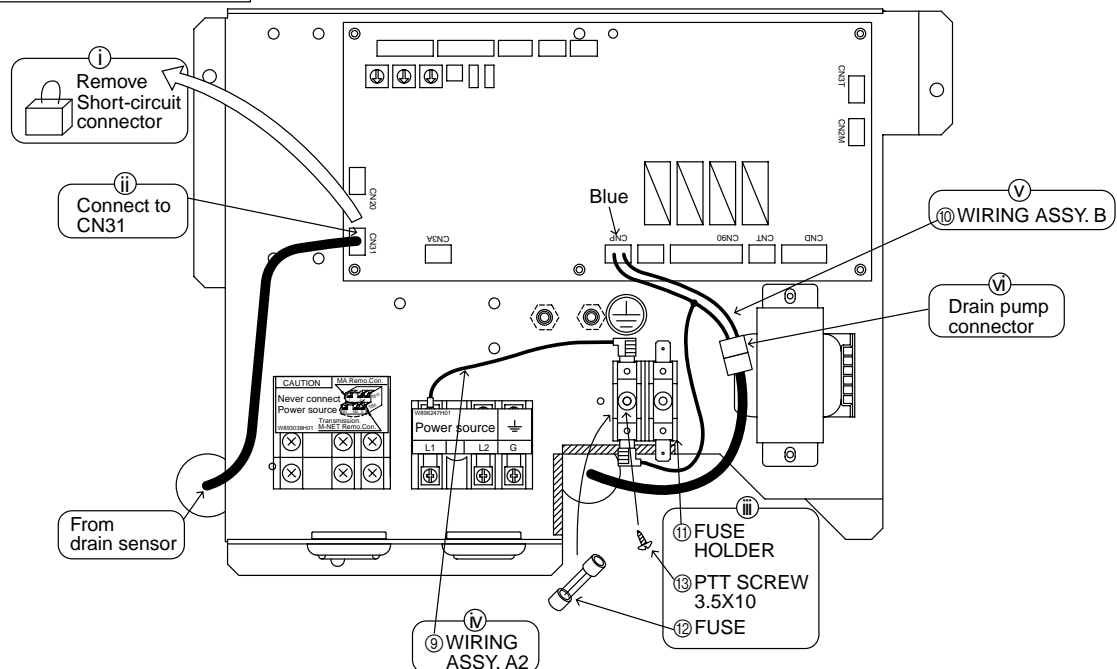
Warning: Perform the following procedures with the power being turned off.

- i. Remove the short-circuit connector on CN31.
- * In the case of PDFY-10,16, 24, 32 NMU-A and PDFY-P06, P08, P12, P15, P18, P24, P27,P30NMU-E also remove the yellow connector on the DSA board.
- ii. Connect the drain sensor wire to CN31.
- iii. Fix the fuse holder (item ⑪) with the PTT screw (item ⑬) to the control box, and attach the fuse (item ⑫).
- iv. Connect wire assembly (items ⑧ or ⑨).
- Note. Item ⑨ (wire) is intended for PDFY-40, 48 NMU-A and PDFY-P36, P48NMU-E. Do not use it for other types.
- v. Connect wire assembly (item ⑩) to CNP12.
- vi. Connect the drain pump connector to wire assembly (item ⑩).

**PDFY-10, 16, 24, 32NMU-A
PDFY-P06, P08, P12, P15, P18, P24, P27, P30NMU-E**



**PDFY-40, 48NMU-A
PDFY-P36, P48NMU-E**



5. If there is slack in the leads, bind them with the clip on the control box.

5 Drain piping work

1. 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. (Fig. 5-1)
2. 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.
3. Use a hard vinyl chloride pipe VP-25 (with an external diameter of 32 mm) for drain piping.
4. Ensure that collected pipes are 10 cm lower than the unit body's drain port. (Fig. 5-2)
5. Do not provide any odor trap at the drain discharge port.
6. Put the end of the drain piping in a position where no odor is generated.
7. Do not put the end of the drain piping in any drain where ionic gases are generated.
8. The intake of the drain piping can be made 41 cm higher than the drain discharge port. If there are some obstacles under the ceiling, use elbows to make it at least height according to the site. (Fig. 5-3)

Note:

If the rise portion is long, there will be a lot of returned water in an operation stop, generating slime or odor during off-season. Ensure that the rise portion is at a minimum.

Caution:

Pipe the drain piping to ensure that it discharges drain, and insulate it to prevent dew condensation. A failure to the piping work may cause water leakage and so wet your property.

Fig. 5-1

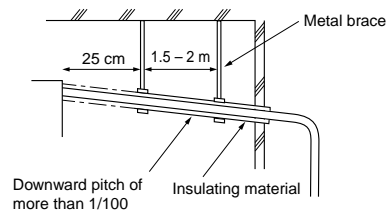


Fig. 5-2

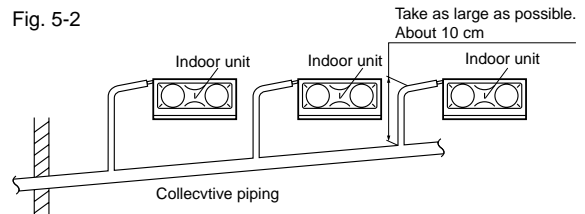
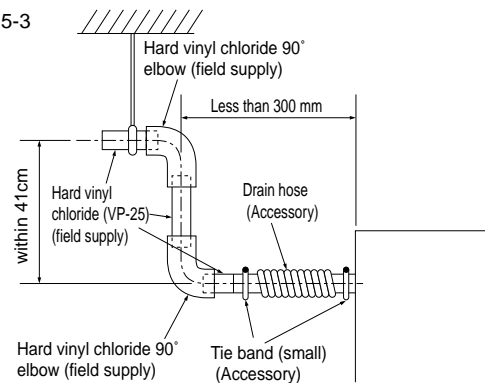


Fig. 5-3



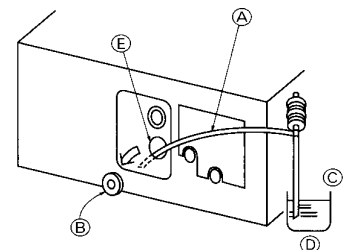
- ▶ Be sure to use the supplied drain hose (Accessory).
- ▶ Connect each connection with vinyl chloride adhesive. But never use any adhesive over the indoor unit discharge port. Otherwise the drain-up mechanism cannot be serviced later. Also, the end connection may be eroded by resin and so cracked.

6 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.

1. Insert the enclosed connector ㉞ into the red connector (2P) on the side of the control box.
2. Remove the polyethylene plug ㉟ on the same side as the indoor unit piping.
3. Fill water into the feed water pump ㊱ using a feed water tank. In filling, be sure to put the end of the pump in drain pan. (If the insertion is incomplete, water may flow over the machine.)
4. Turn on the main power. The drain pump is forced to operate without any remote controller operation. Make sure using a transparent drain hose (accessory) that drain is discharged.
5. After confirmation, turn off the main power, remove the connector, and insert the polyethylene plug into its original position, insulate drain hose.



- ㊱ Insert the pump's end 2 to 4 cm.
- ㉟ Remove the polyethylene plug.
- ㉞ About 1000 ml
- ㉟ Water
- ㊱ Filling port

