



**4P590204-1**

Packaged Air Conditioner Drain Pump Kit

**BDU510B250VM**

**Installation manual**

Read these instructions carefully before installation. Keep this manual in a handy place for future reference. The original documentation is written in English. All other languages are translations.

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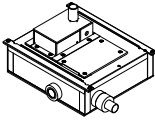

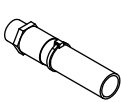

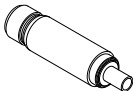


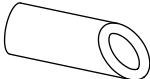
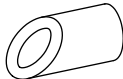
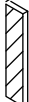









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## 1. COMPONENTS

Check that the following accessories are provided and that each accessory is correct in amount.

### PRECAUTION

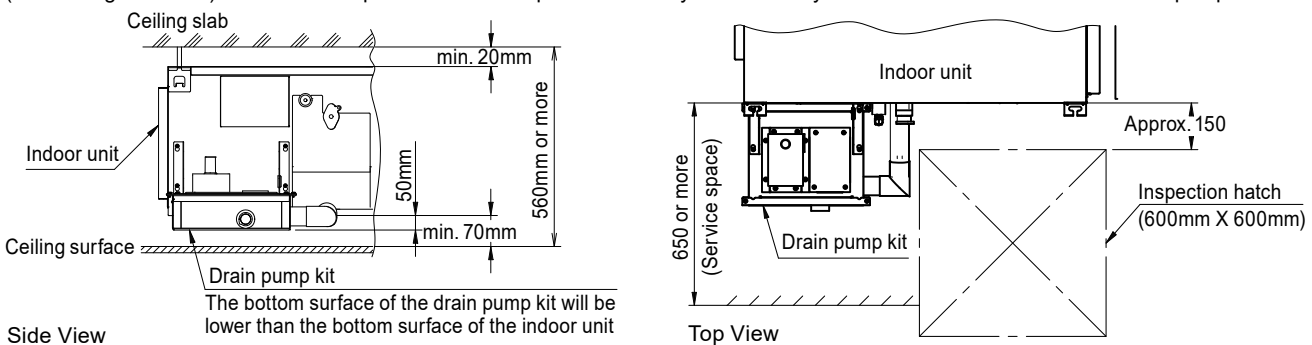
The accessories are required for the installation of the air conditioner. Be sure to keep them until the installation work is completed.

Name	Drain Pump assembly	Hanging bracket	Drain connecting pipe 1	Drain connecting pipe 2	Drain connecting pipe 3
Shape					
Quantity	1	2	1	1	1
Name	Heat insulating tube 1	Heat insulating tube 2	Heat insulating tube 3	Heat insulating tube 4	Heat insulating material 1
Shape					
	ID38 x L35	ID38 x L125	ID38 x L114	ID38 x L94	60 x 290
Quantity	1	1	1	1	3
Name	Heat insulating material 2	Heat insulating material 3	Heat insulating material 4	Mounting screw	Hose band
Shape					
	20 x 400	230 x 250	90 x 240	M5x12	
Quantity	2	1	1	8	3
Name	Cable tie 1	Cable tie 2	Plastic band	Installation manual	
Shape					
	L265	L150			
Quantity	1	1	1	1	

## 2. PREPARATION FOR INSTALLATION

### 2.1 Required Installation Space

To install an indoor unit with the drain pump kit, a clearance of 560mm or more is required between the ceiling slab and the ceiling surface (Refer to figure below). Provide an inspection hatch in a position where you can readily service the indoor unit and the drain pump kit.

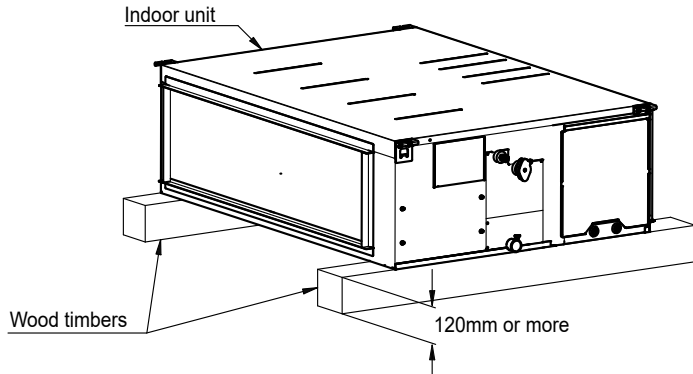


## 2.2 Drain Pump Kit Installation

Be sure to install this drain pump kit after installing the indoor unit to the ceiling.  
Failure to follow this instruction may result in damage to the drain pump kit.

**Note: The bottom surface of the drain pump kit will be lower than the bottom surface of the indoor unit.**

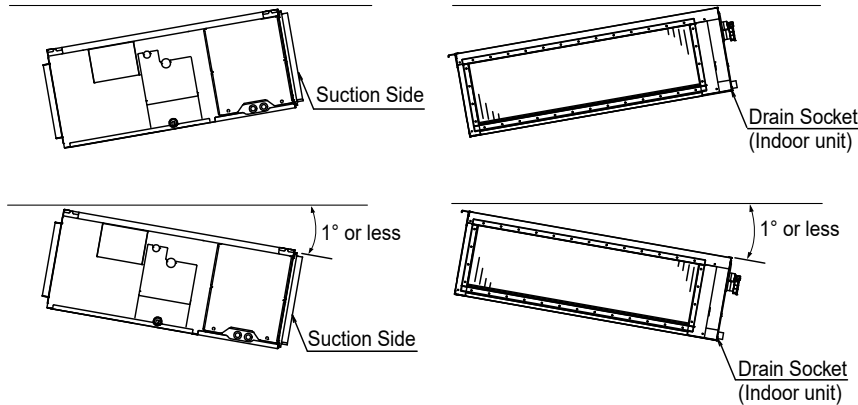
If this drain pump kit must be installed before the indoor unit is installed to the ceiling, place the indoor unit on wood timbers etc.  
After installing the drain pump kit, install the indoor unit carefully. Do not push, pull or apply excessive force to drain pump kit, it may damage and cause water leakage.



### CAUTION

To ensure the proper installation of the drain pump kit, please take note the following consideration when installing the indoor unit.

- Be sure that the suction side or drain socket side of the indoor unit is not at higher side of unit. Otherwise, the float switch may malfunction, causing water leakage or other failure.

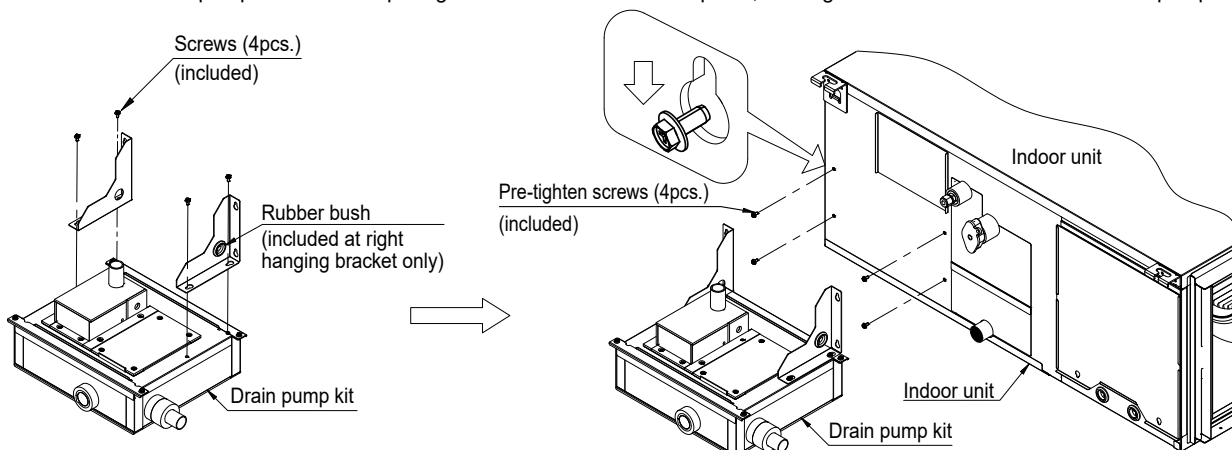


## 3. INSTALLATION PROCEDURE

### CAUTION

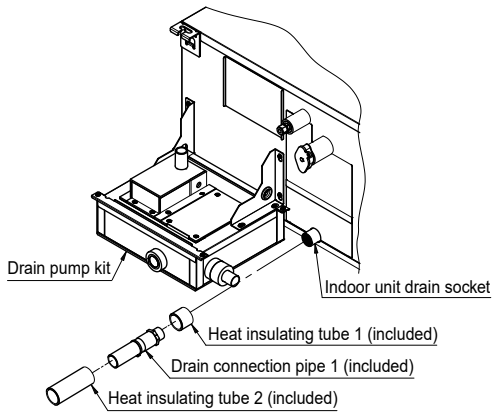
- Do not hold the drain pump kit by the drain socket when installing it to the indoor unit. Doing so may apply excessive force to the root of the socket, resulting in water leakage.
- Do not give an excessive load up and down, when pulling and inserting the drain plug.
- Be sure to turn OFF the power to the indoor unit before starting the procedure below.

1. Assemble two hanging brackets (included) to the drain pump kit using mounting screw (included).
2. Pre-tighten mounting screw (included) at four prepared holes at unit side panel.
3. Mount the drain pump kit to the four pre-tightened screws at unit side panel, then tighten all the screws to fix the drain pump kit to side panel.

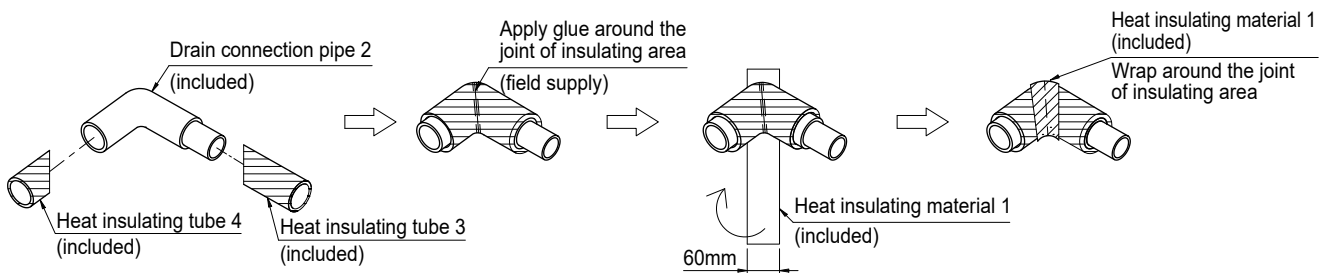


4. Insert heat insulating tube 1 (included) onto indoor unit drain socket.
5. Wrap the threaded end of the drain connecting pipe 1 (included) with thread seal tape. Then attach the drain connecting pipe 1 to the indoor unit drain socket.

- Insert heat insulating tube 2 (included) onto drain connecting pipe 1.



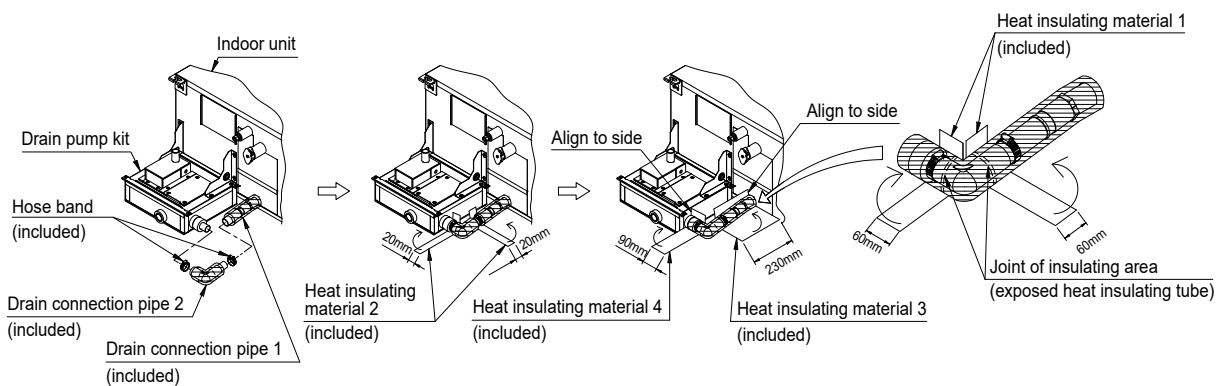
- Insulate drain connecting pipe 2 (included) with heat insulating tube 3 (included), heat insulating tube 4 (included) and heat insulating material 1. **Note: Be sure to apply glue around the joint of heat insulating tube 3 and heat insulating tube 4.**
- After glue dry, affix heat insulating material 1 (included) to cover the joint area.



- Connect the drain connecting pipe 2 to the drain pump kit and the drain connecting pipe 1. **Note: Be sure to connect the elbow side of the drain connecting pipe 2 to the drain pump kit.**

- Clamp the pipe joints with the hose bands (included).

- Wrap heat insulating material 2 around the drain connecting pipes at hose band location. Then wrap the drain connecting pipes with heat insulating materials 3 and heat insulating material 4. And finally wrap the exposed heat insulating tube with heat insulating material 1.

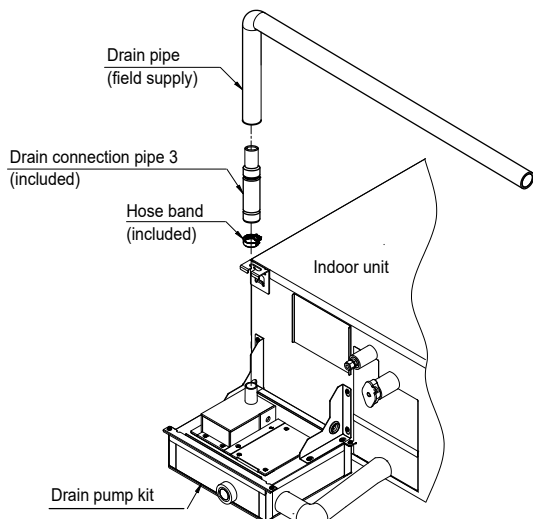


- Connect the drain connecting pipe 3 (included) to the outlet of the drain pump kit.

**Note: Be sure to incline the external drain pipe downward.**

- Clamp the pipe joints with the hose bands (included).

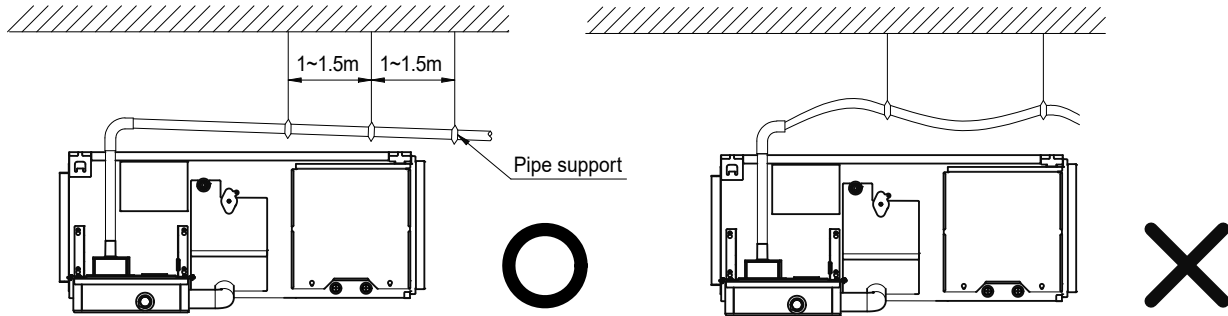
- Do not install the heat insulating material (field supply) to the outlet of the drain pump kit at this point. It will be installed after the draining check in the trial operation procedure (Refer to 6. TRIAL OPERATION PROCEDURE).



## 4. DRAINAGE PIPE INSTALLATION

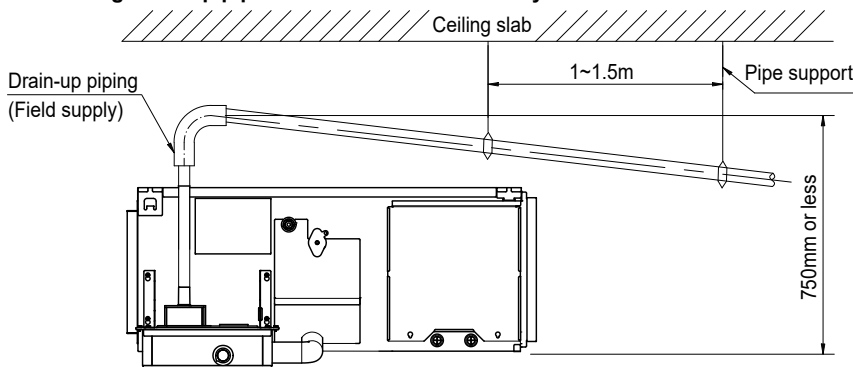
Install the drain pipe to ensure proper drainage.

1. Use a pipe diameter equal to or larger than that of the connecting pipe (PVC pipes with a nominal diameter of 25mm and an external diameter of 32mm).
2. Make the pipe length as short as possible and incline the pipe downward at a ratio of 1/100 or greater to prevent the accumulation of air.
3. Install pipe supports at intervals of 1.0m to 1.5m to prevent deflection.
4. Use a new drain hose and hose bands when replacing the drain pump kit with a new one.

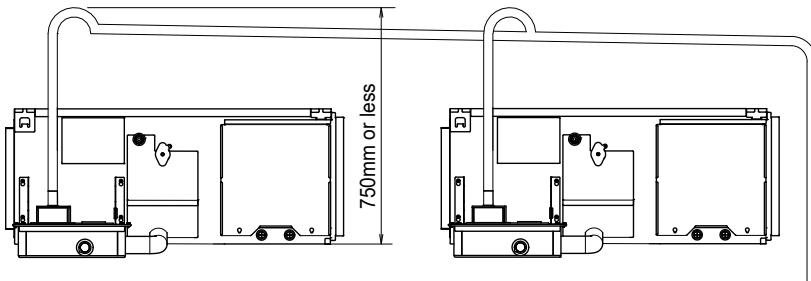


### CAUTION

- The height of the drain-up pipe must be 750mm or less relative to the indoor unit drain outlet.
- The rising drain-up pipe must be installed vertically.



- Refer to the figure below for concentrated drain piping.



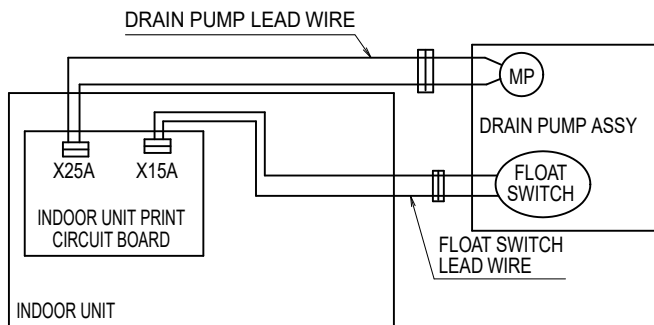
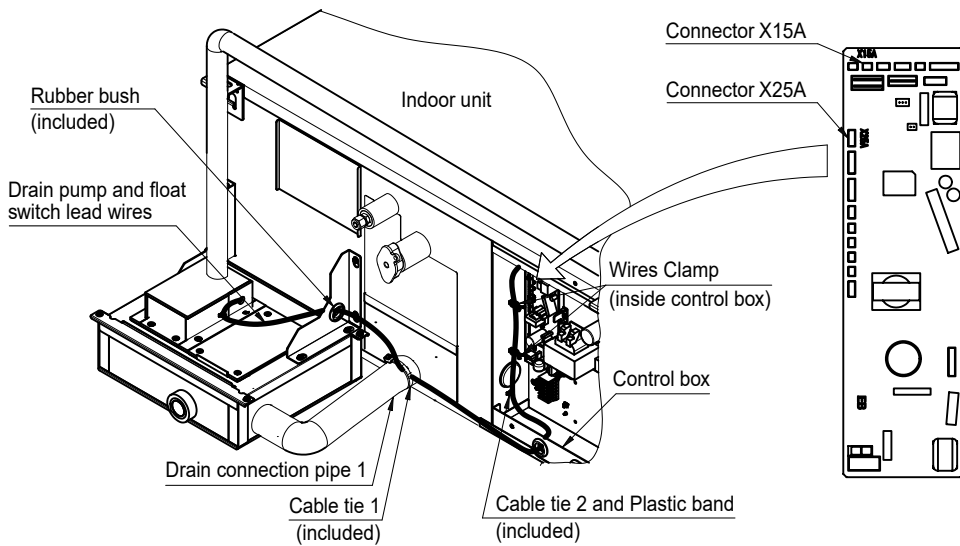
## 5. ELECTRICAL WIRING

Perform electrical wiring for the drain pump kit properly as follows.

### CAUTION

- Be sure to turn OFF the power to the indoor unit before starting the procedure below.

1. Remove the indoor unit control box cover.
2. Insert drain pump and float switch lead wires through the rubber bush on the hanging bracket. Route and connect the lead wires to the printed circuit board of the indoor unit (Refer figure below).
3. Bind the lead wires together with the drain connecting pipe 1 (included) using cable tie 1 (included).  
**Note: Do not compress the insulation after install the cable tie. Be sure the lead wire is fixed close to the indoor unit.**
4. Clamp the lead wires inside control box using cable tie 2 (included) and plastic band (included), along the path to PCB, secure with other hardness wires fixing band (Refer to figure below).
5. Remove the short circuit connector from the X15A terminal on the indoor unit printed circuit board (A1P).
6. Connect the float switch lead wire to the X15A terminal.
7. Connect the drain pump lead wire to the X25A terminal.
8. After completion of the wiring, be sure to organize the wires neatly, bind together and clamp the wires.
9. Install back the indoor unit control box cover.

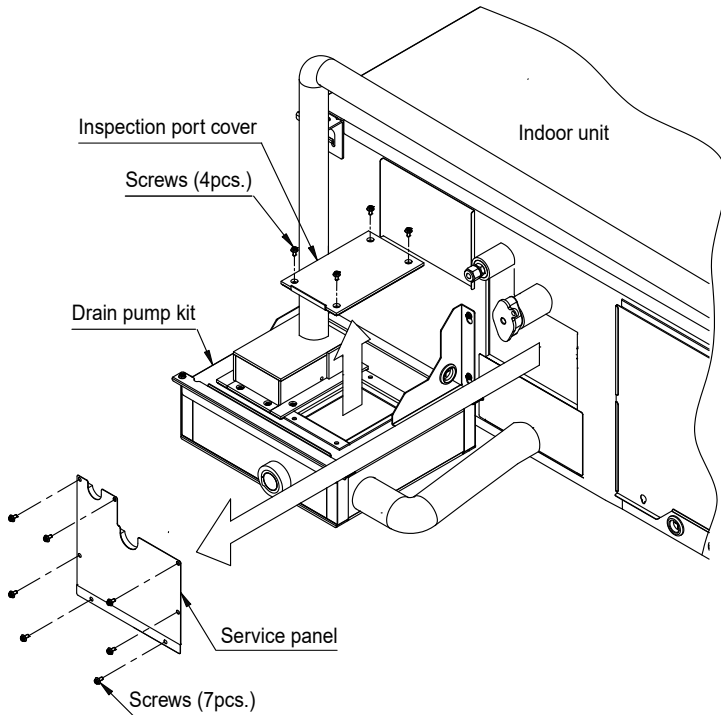


## 6. TRIAL OPERATION PROCEDURE

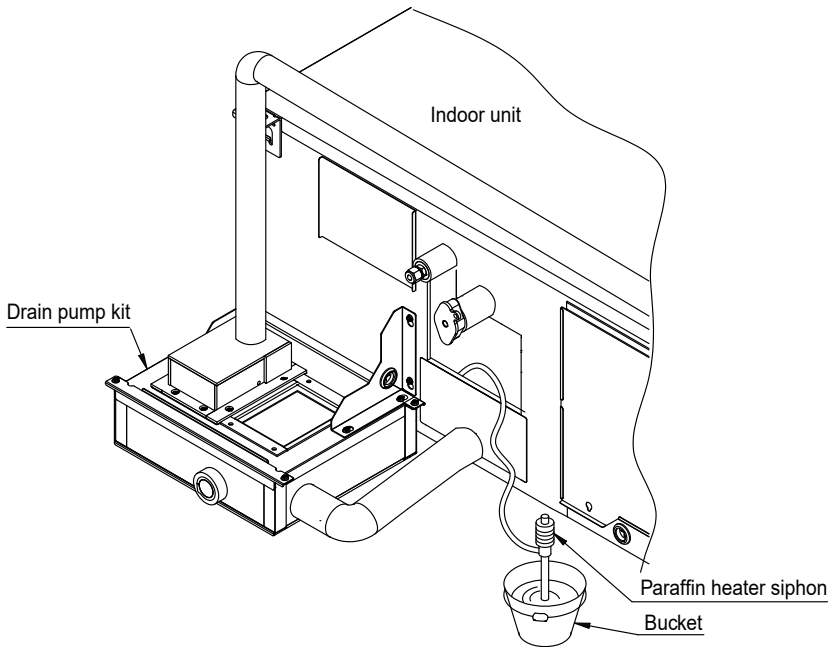
### CAUTION

• Be sure to turn OFF the power to the indoor unit before starting the procedure below.

1. Check again that the installation and electrical wiring procedures for the drain pump kit have been completed properly.
2. Remove the inspection port cover from the drain pump kit and service panel from the Indoor unit (Refer to figure below).



3. To check the drain condition of the drain pump kit, pour approximately 3 litres of water from the service panel opening into drain pan (Refer to figure below).
4. Ensure that the water flows out smoothly without leakage.



■ **IF ELECTRICAL WIRING HAS BEEN COMPLETED:**

5. After making sure that the indoor unit control box cover is closed, turn ON the power.
6. Use the remote controller to perform COOL operation and check the drain condition by pressing upward the drain connecting pipe 3 (included).

**NOTE:**

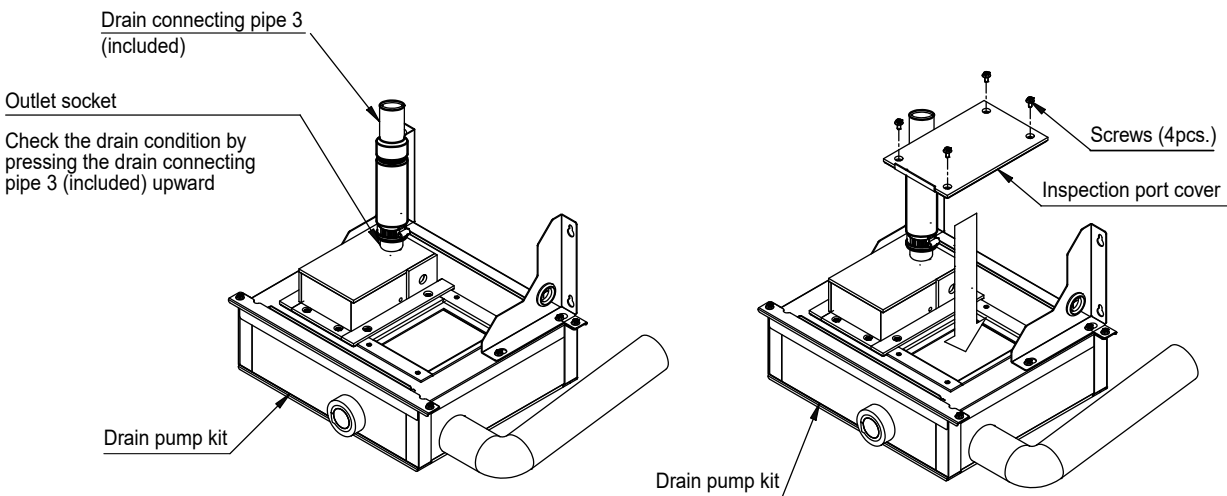
- If using a VAV type air conditioner, you may not be able to perform COOL operation unless trial operation of the outdoor unit is completed. In this case, check the drain condition by performing COOL operation during or after trial operation of the outdoor unit.
7. After checking the drain condition, stop the COOL operation and reinstall the service panel and the inspection port cover.

■ **IF ELECTRICAL WIRING HAS NOT BEEN COMPLETED:**

5. Remove the indoor unit control box cover, connect the remote controller to P1 and P2 terminal of the operation terminal block (X2M). Connect a single-phase 220V~240V power supply and earth wire to the L, N and earth terminal of the power terminal block (X1M). Then close the indoor unit control box cover and turn ON the power.
6. Use the remote controller to start trial operation mode and select FAN operation mode with the operation mode button.
7. Press the ON/OFF button to start the drain pump. Press upward the drain connecting pipe 3 (included) to check the drain condition (Refer to figure below).

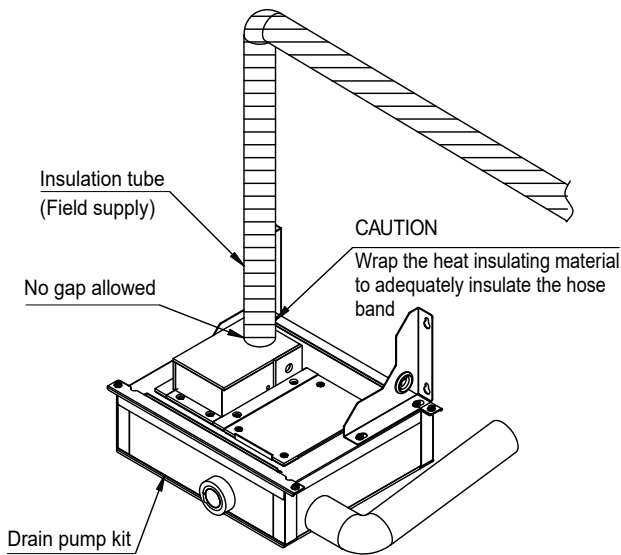
**CAUTION**

- **Be careful as pressing the ON/OFF button causes the indoor unit fan to rotate.**
8. After completion of the drain condition check, turn OFF the power. Then disconnect the remote control wire and the earth wire, and close the control box cover.
  9. Reinstall the service panel and the inspection port cover.



■ **AFTER TRIAL OPERATION COMPLETED:**

1. Reinsert the drain connecting pipe 3 (included) all the way and clamp it with a hose band (included).  
**Note: Be sure that there is no gap between the drain connecting pipe 3 (included) and the drain pump kit.**
2. Insulate the drain connecting pipe 3 (included) with insulation tube (field supply) to prevent dew condensation.



## 7. CHECK AFTER INSTALLATION

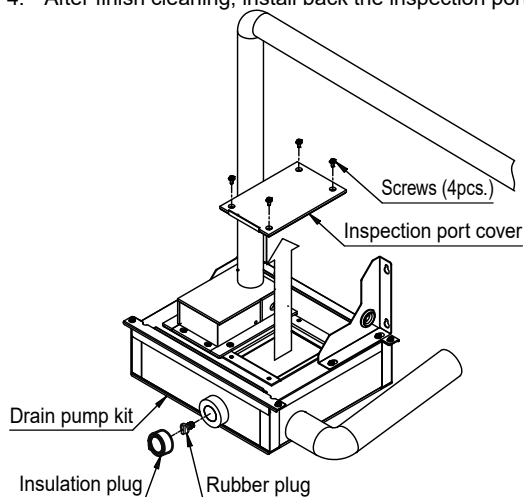
Check again at the least the following items after completion of installation.

Check Item	Check Mark
Are the indoor unit and the drain pump kit installed horizontally?	
Is the drain pipe connected firmly?	
Is there no possibility of water leakage?	
Is the drain piping properly inclined downward (1/50 to 1/100)?	
Is the drain hose adequately insulated?	
Are the wires connected correctly?	

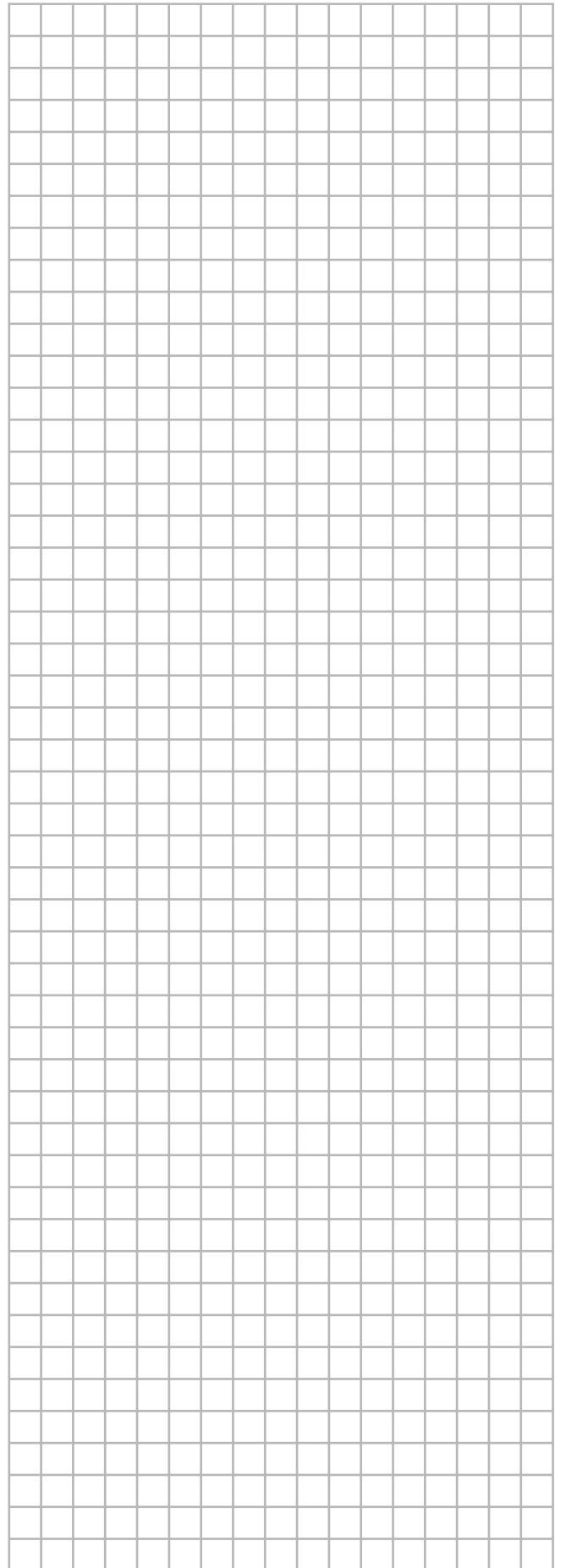
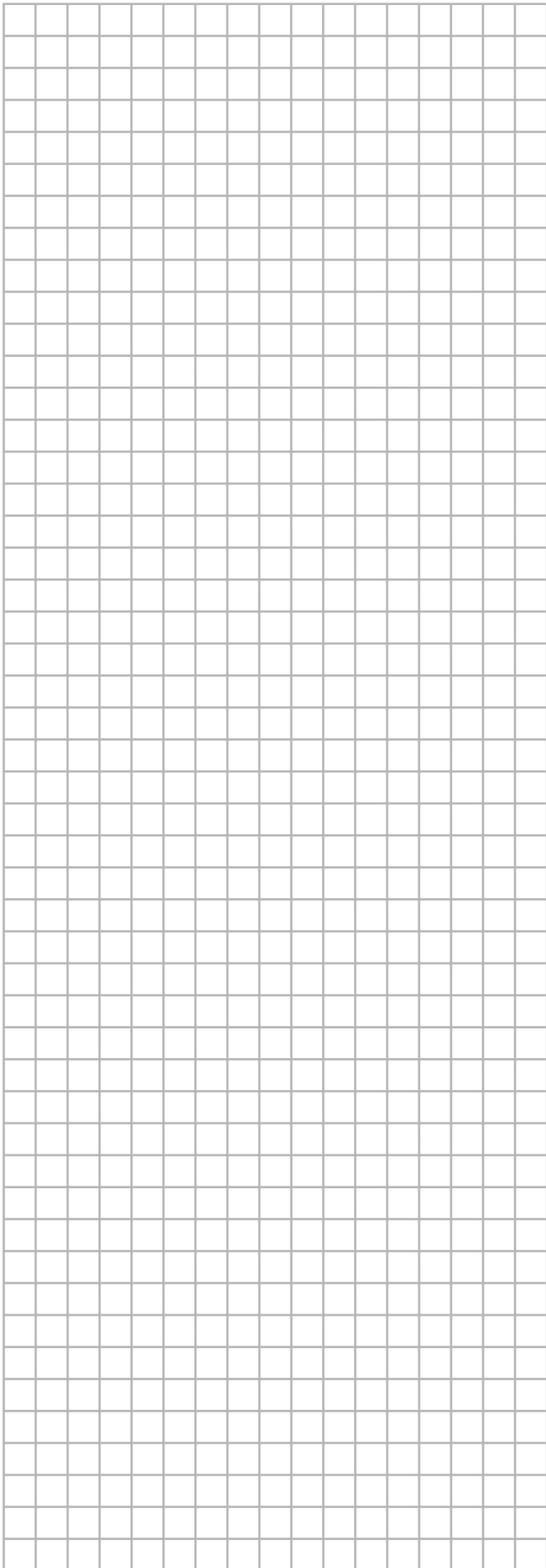
## 8. MAINTENANCE

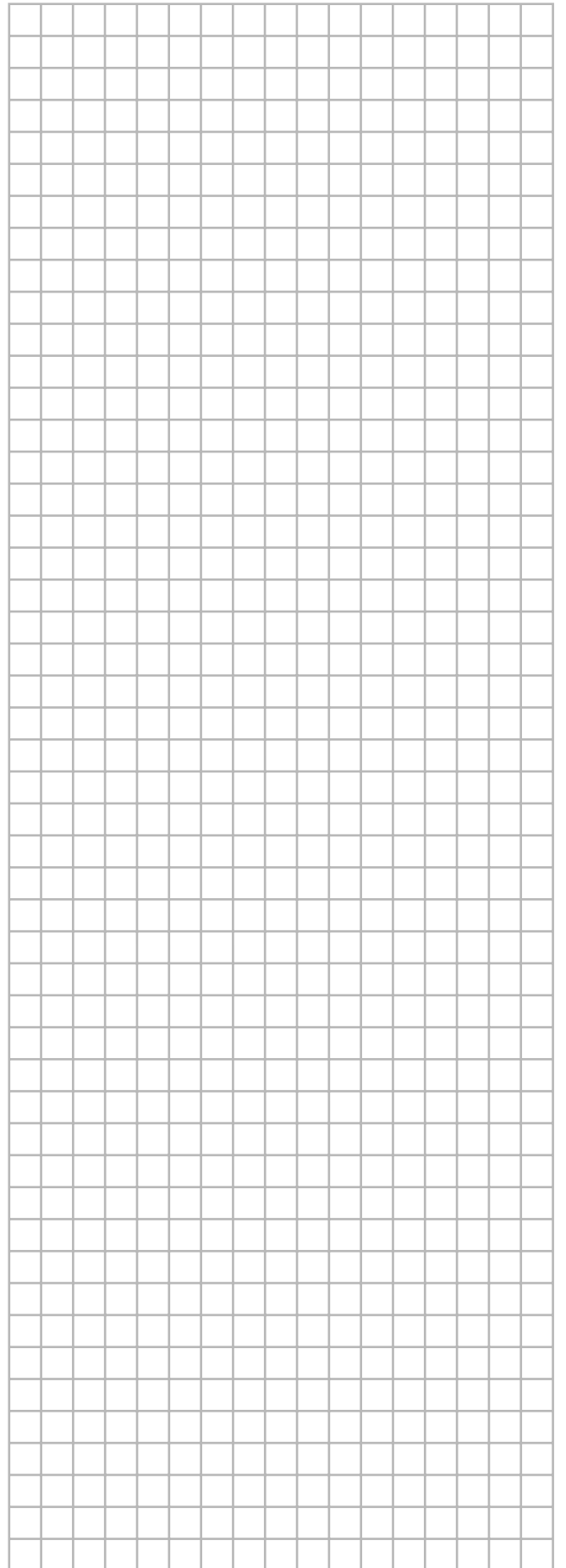
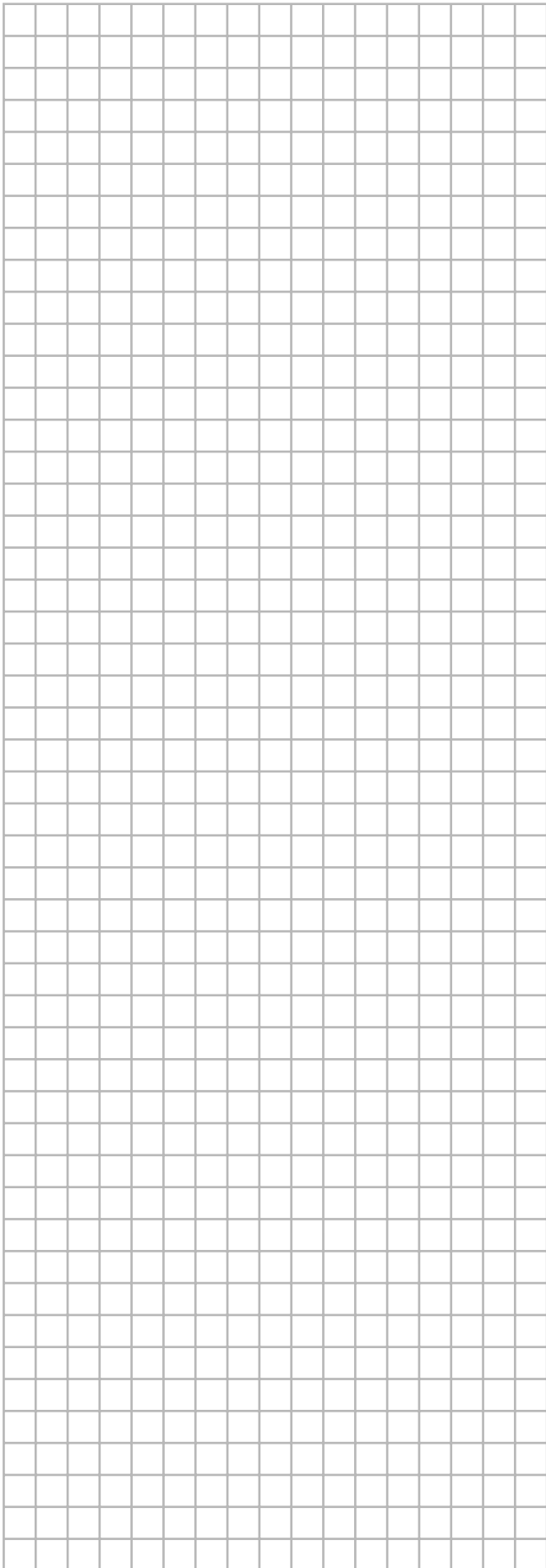
Clean the drain pump kit at the end of every season in which the unit is used for cooling.

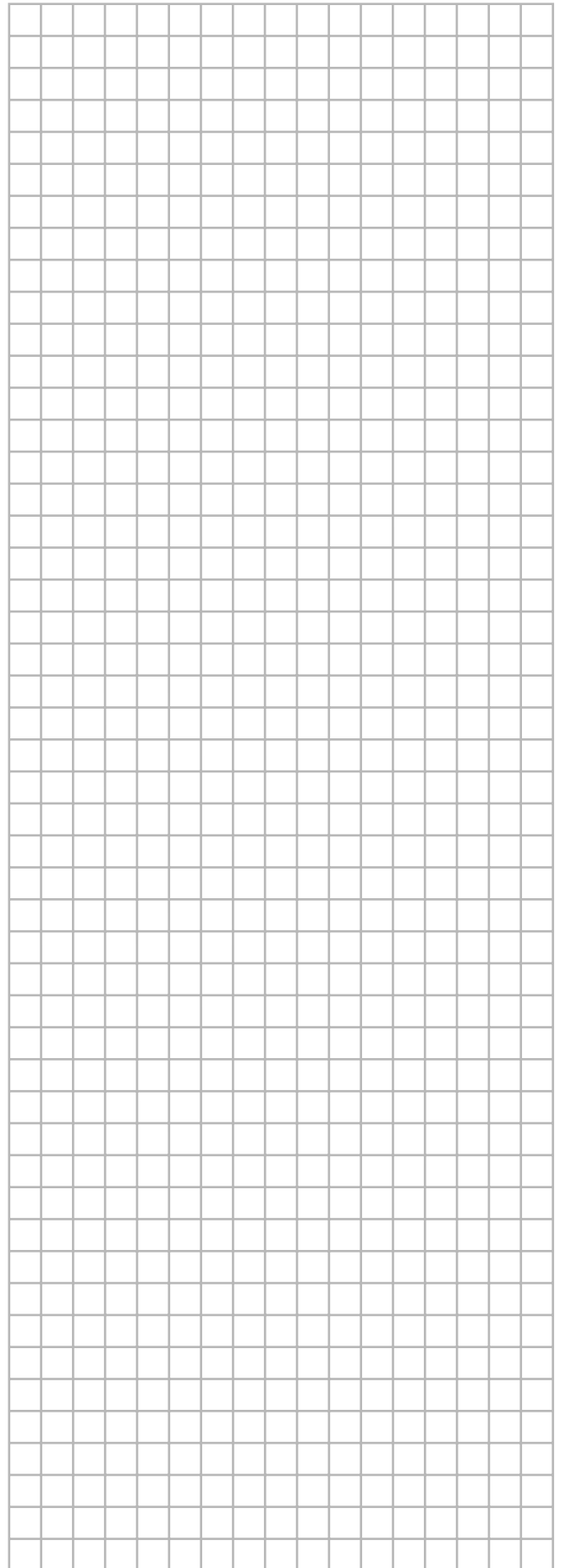
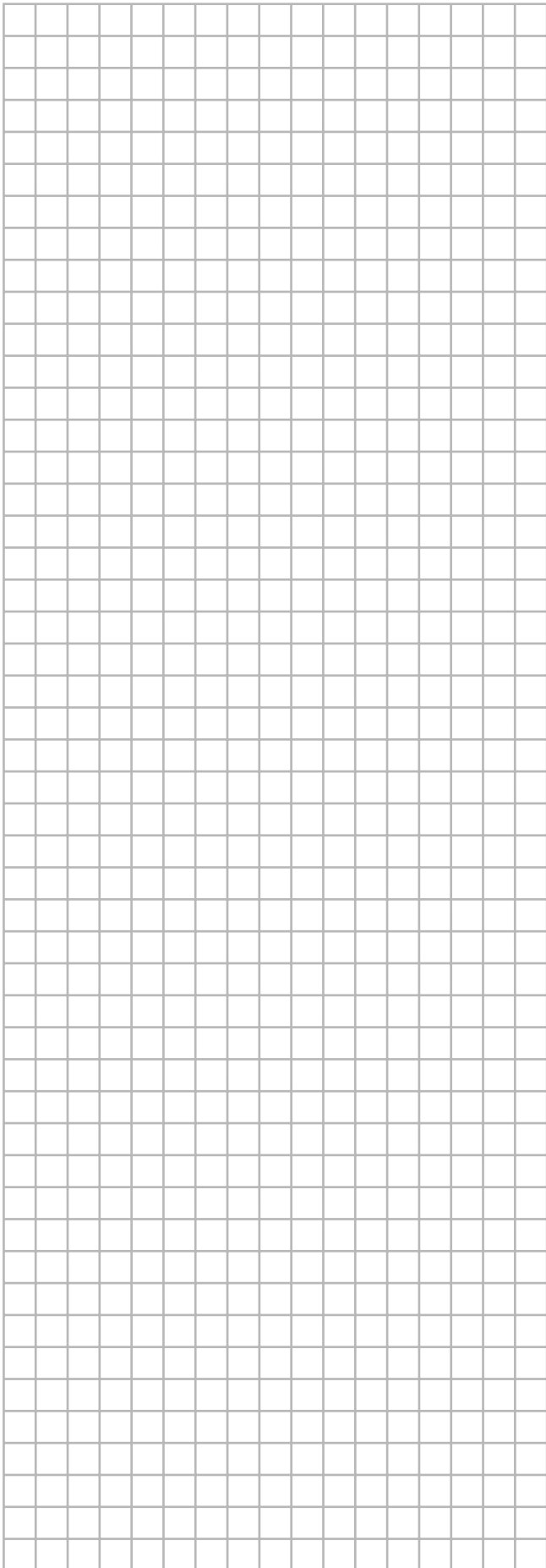
1. Drain all the water out of the drain pump kit by removing the insulation plug and rubber plug.  
**Note: Even after removing the rubber plug from the drain pump kit, some water may remain trapped in the drain connecting pipes and the drain pump kit.**
2. Remove the inspection port cover from the drain pump kit.
3. Remove dust and water in the areas around the inspection port.
4. After finish cleaning, install back the inspection port cover, rubber plug and insulation plug.











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