



# Packaged Air Conditioner Optional Parts

## Drain lift up mechanism Installation Manual

Type:  
PAC-SH83DM-E    PAC-SH84DM-E  
PAC-SH85DM-E    PAC-SH86DM-E

• Before installation, read this manual and the installation manual of the indoor unit carefully.

### Safety Precautions

<b>WARNING</b>	This symbol denotes what could lead to serious injury or death if you install the mechanism incorrectly.
<b>CAUTION</b>	This symbol denotes what could lead to personal injury or damage to your property if you install the mechanism incorrectly.

- After the installation has been completed, carry out a test run and check that there are no abnormalities. At the same time explain the safety precautions, method of operation and maintenance to your customers, and hand this manual over to them.
- The customer id requested to keep this manual together with the user's manual in a safe place. If another user is going to use this unit, make sure that the manuals are handed over to him.

### WARNING

Ask your dealer or technical representative to install the unit.  
Any deficiency caused by your own installation may result in water leakage, an electric shock or fire.

Ensure that installation work is done correctly following this installation manual.  
Any deficiency caused by installation may result in water leakage, an electric shock or fire.


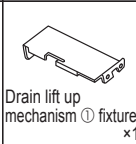
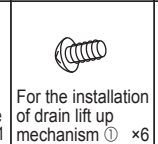
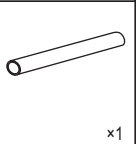
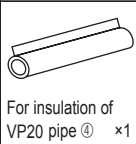
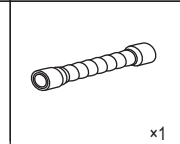
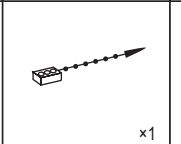
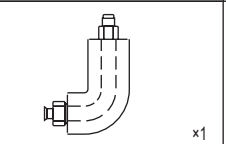
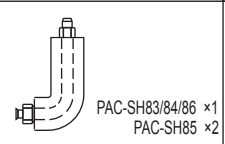
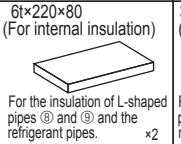
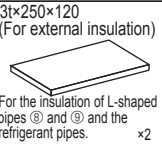
### CAUTION

Make sure that the refrigerant pipes are insulated in order to prevent condensation.  
Incomplete insulation may cause condensation on the surface of pipes, wetting of the ceiling, floor and other important properties.

Make sure that the drainage pipes are carried out correctly following this manual and that it is insulated in order to prevent condensation.  
Any deficiency caused by piping may result in water leakage, wetting of the ceiling, floor and other personal properties.

## 1 Confirming Supplied Accessories

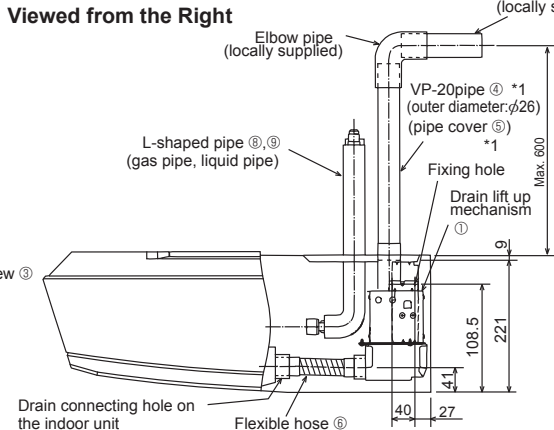
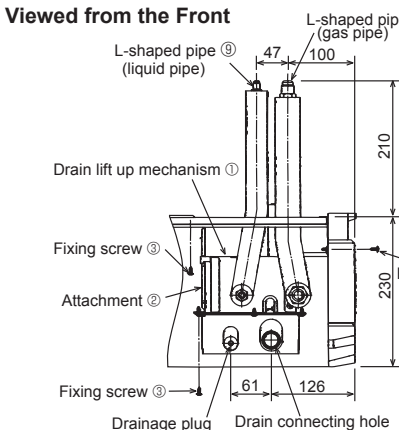
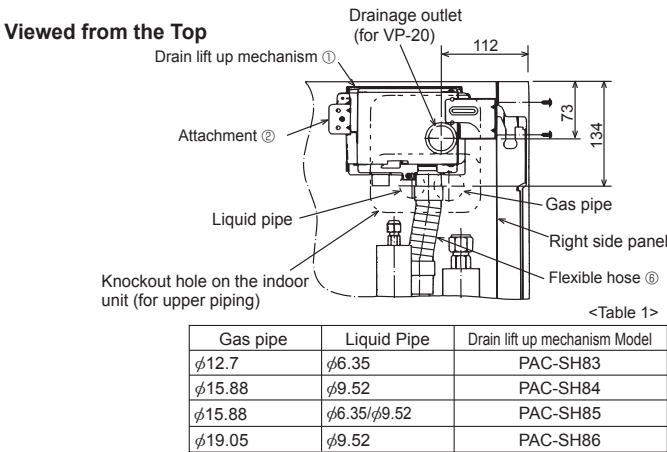
• Before starting installation, make sure that the following accessories are present.

① Drain lift up mechanism	② Attachment	③ Screws (4×10)	④ VP-20 pipe	⑤ Pipe cover	⑥ Flexible hose	⑦ Fastener	⑧ L-shaped pipe (gas pipe)	⑨ L-shaped pipe (liquid pipe)	⑩ Insulator A	⑪ Insulator B
	 Drain lift up mechanism ① fixture x1	 For the installation of drain lift up mechanism ① x6	 x1	 For insulation of VP20 pipe ④ x1	 x1	 x1	 x1	 PAC-SH83/84/86 x1 PAC-SH85 x2	 6t×220×80 (For internal insulation) For the insulation of L-shaped pipes ⑧ and ⑨ and the refrigerant pipes. x2	 3t×250×120 (For external insulation) For the insulation of L-shaped pipes ⑧ and ⑨ and the refrigerant pipes. x2

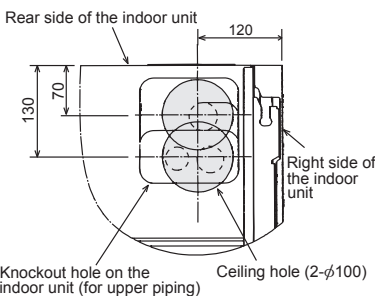
## 2 Installation Diagram of the Drain lift up mechanism

- This drain lift up mechanism must be installed inside an indoor unit.
- Installing this drain lift up mechanism limits to arrange the refrigerant pipe only upward.
- To facilitate installation of the drain lift up mechanism, it should be installed before indoor unit.
- The size of the plumbing that must connect, by the refrigerant kind of the indoor unit that corresponds in the case of PAC-SH85DM-E, changes.

- Please refer to the installation manual of an indoor unit for details.
- Accessory pipes (⑧ or ⑨) are compatible with any types of refrigerant pipe. The connecting pipe of the L-shaped pipe (liquid pipe) included with PAC-SH85 will differ depending on the indoor unit model in use.
- \*1 In case of accessory parts VP-20pipe ④ and pipe cover ⑤ do not have enough length because the lifting height is high, please supply locally.



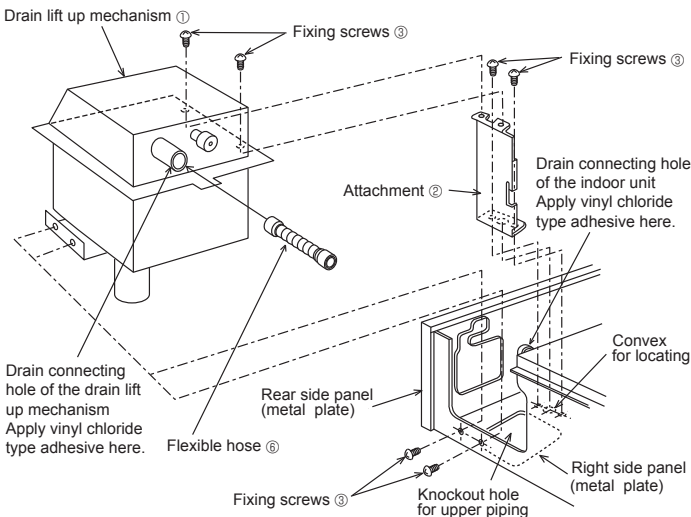
### Positions of Holes on the Ceiling



## 3 Installing the Drain lift up mechanism

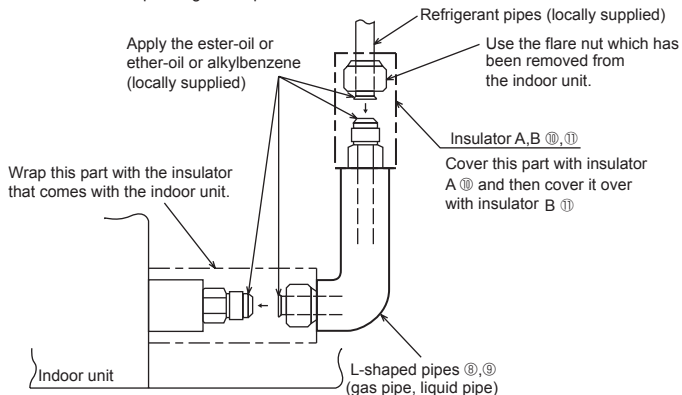
- Connect the flexible hose to the drain lift up mechanism before installing the mechanism to an indoor unit.
- 1.Remove the intake grille and side panel. (Refer to the indoor unit installation manual.)
- 2.Prepare the knockout hole to be used for the upper piping of the indoor unit.
- 3.Fix the attachment ② with the fixing screws ③ (×2)
- 4.Apply vinyl chloride type adhesive to the drain connecting hole of the drain lift up mechanism ① and insert the flexible hose ⑥ firmly into the hole.
- 5.Apply vinyl chloride type adhesive to the drain connection hole of the indoor unit, and install the drain lift up mechanism ① while inserting the flexible hose ⑥. Do not twist during insertion.
- 6.Fix the drain lift up mechanism ① with the fixing screws ③ (×4)

**Notice** Do not press the rear side panel (metal plate) as deformation will result.



## 4 Refrigerant Piping

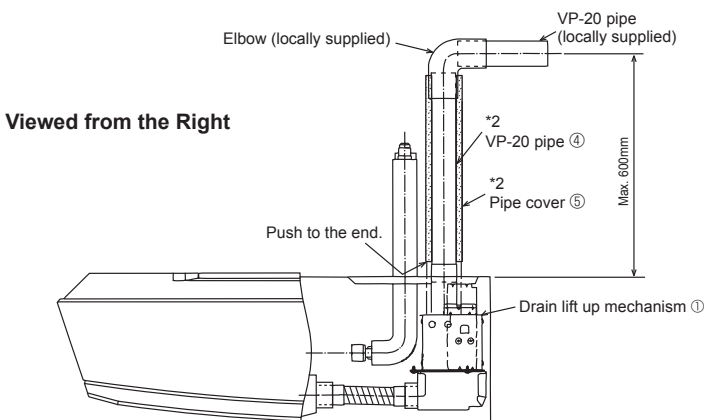
- For details on piping, refer to the installation manual of the indoor unit.
- [With the stop valve of the outdoor unit fully closed]**
- 1.Apply lubricant to the flare sheet of the L-shaped pipes (gas pipe, liquid pipe) ⑧, ⑨.
- 2.Remove the flare nut and cap from the indoor unit.
- 3.Apply lubricant to the flare sheet connecting section of the indoor unit.
- 4.Connect the L-shaped pipes (gas pipe, liquid pipes) ⑧ and ⑨ quickly.
- 5.Fit the removed flare nut to the existing pipes and carry out flaring.
- 6.Connect the L-shaped pipes with the existing pipes in the same way.
- 7.Cover each connection with heat insulator ⑩, ⑪.
- [After the refrigerant circuit is complete]**
- 8.Vacuumize the refrigerant lines through the service port of the liquid stop valve.
- 9.Fully open the stop valves (both liquid and gas).
- The method for operating the stop valve is described on the outdoor unit installation manual.



## 5 Drain Piping

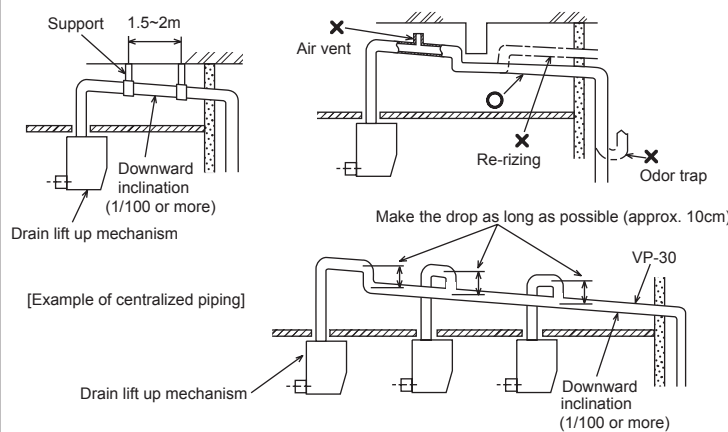
- For details on piping, refer to the installation manual of the indoor unit.
- 1.Apply vinyl chloride type adhesive to the drainage outlet of the drain lift up mechanism ①, then insert the VP-20 pipe ④ into it. (30mm deep)
- 2.Connect the VP20 pipe ④ and existing drain pipe using a 90-degree elbow etc. and adhesive.
- 3.Cover the VP-20 pipe ④ with the pipe cover ⑤.
- Insulate all pipes, from the drain lift up mechanism up to the outside.

\*2 In case of accessory parts VP-20pipe ④ and pipe cover ⑤ do not have enough length because the lifting height is high, please supply locally.



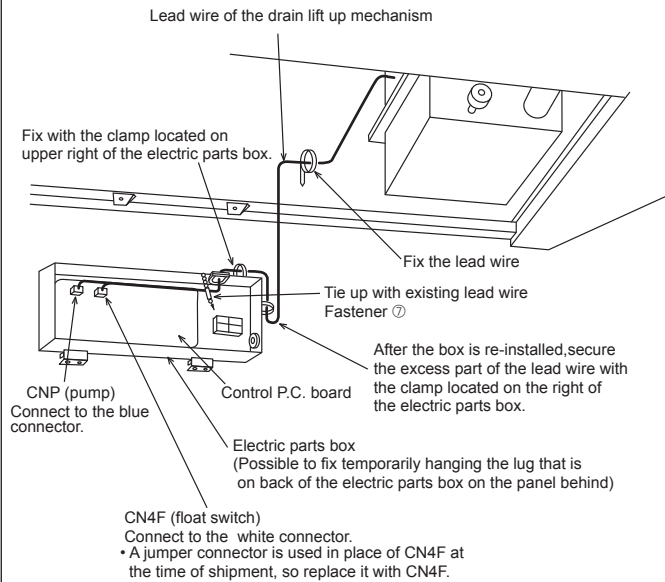
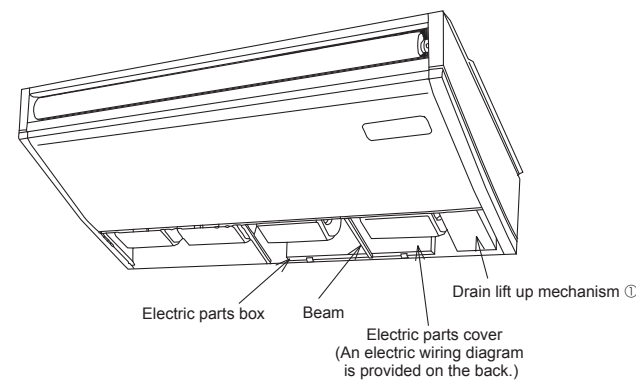
### [Make sure to follow the following points during drain piping.]

- Drain lifting height must be less than 600mm.
- Incline the drain pipe downwards (1/100 or more) to the drainage side (outdoor).
- Do not create traps or peaks.
- Keep the horizontal piping within 20m. Use fixtures to prevent the pipe from waving.
- Do not install air vent pipes. The drainage may spout out.
- Use general-purpose hard vinyl chloride pipes (outer diameter:φ26) and apply vinyl chloride type adhesive to prevent any leakage.
- Cover with insulator (made of foamed polyethylene, with specific gravity of 0.03 thickness of 9mm or more).
- Do not install odor trap at the drain outlet.
- Locate the end of pipe at a point where odor is unlikely to occur.
- Do not insert the pipe directly into a drainage ditch where sulfur gas may be produced.
- Use VP-30 pipes for centralized piping. Install the centralized drain pipe approximately 10cm below the output of pipes connected from the drain lift up mechanism.



## 6 Electric Wiring

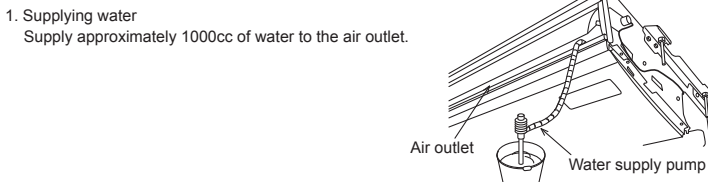
- Refer to the installation manual of the indoor unit together with this manual.
- Perform the work after checking that the power supply is off.
- 1.Remove the beam.
- 2.Remove the electric parts cover.
- 3.Pull the electric parts box downwards.
- 4.Connect the lead wire of drain lift up mechanism to the CNP and CN4F connectors provided on the control P.C. board of the indoor unit.
- 5.Tie up the lead wires with the fastener ⑦ so that the wires do not come apart inside the electric parts box.
- 6.When the wiring is finished, re-install the electric parts box, its cover and the beam.



• The positions of the connectors which must be connected to the control P.C. board in certain models differ from those specified in the above diagram. Make sure that the lead wire are connected to CNP and CN4F connectors.

## 7 Test Run

- Through this test run, check that drainage is discharged properly and that there is no water leakage from any of the connections.
- Refer to the installation manual of the indoor unit together with this manual.



2. Carrying out a test run
- (1) Turn the power ON.
  - (2) Press the TEST RUN button on the remote controller twice.
  - (3) Press the MODE button to select cooling mode.
    - The drain lift up mechanism will be activated to start discharging the water.
  - (4) Check whether water is discharged properly.
  - (5) Press the POWER ON/OFF button to cancel the test run.
  - (6) Turn the power OFF.

- 3.Re-install each part after checking.
- Note:  
If the drain lift up mechanism is installed at the time of the year when heating is used, make sure that the water for the drain check has been removed.  
After removal of the water, reinstall the drainage plug.

