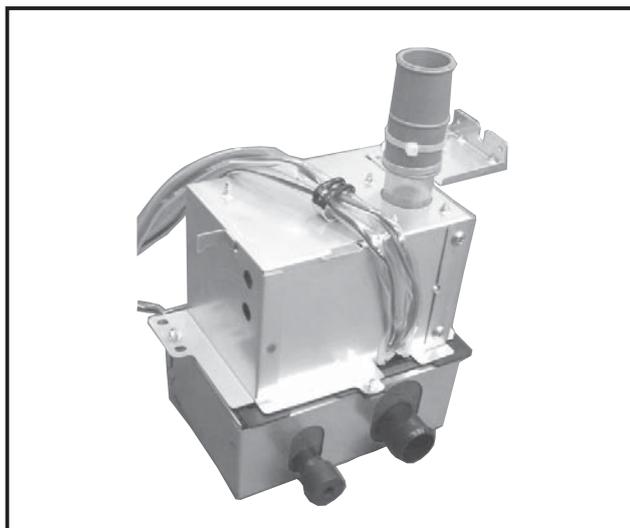




# Drain Pump for Ceiling Suspended models PAC-SH83/84/85DM-E

## Photo



## Descriptions

Raises drain generated during unit's operation to secure the appropriate angle of the drain pipe.

## Applicable Models

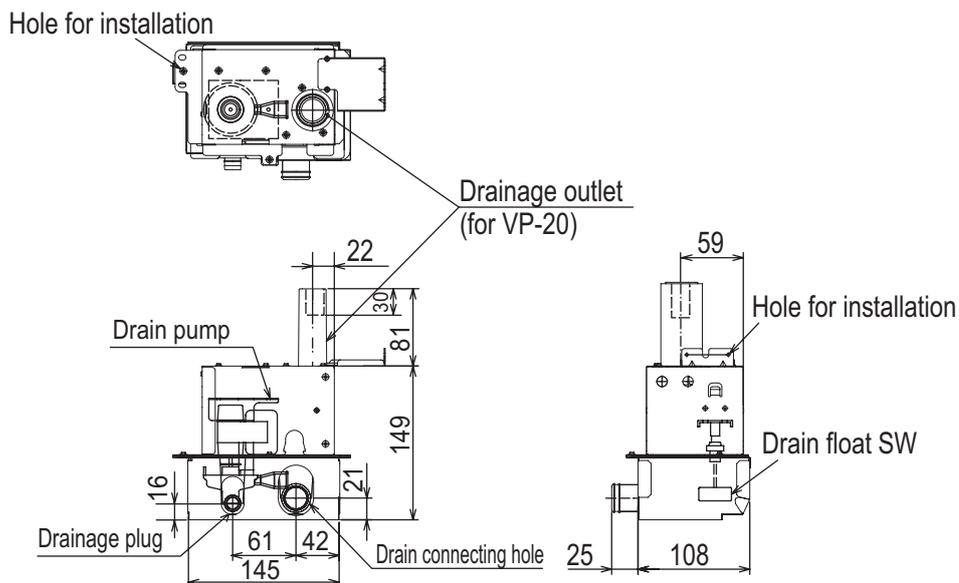
Drain pump	PAC-SH83DM-E	PAC-SH84DM-E	PAC-SH85DM-E
Applicable models	PCA-RP50KA	PCA-RP71KA PCA-RP100KA PCA-RP125KA PCA-RP140KA	PCA-RP60KA

## Specifications

Rated power	220V AC, single-phase, 50/60Hz
Power consumption	12/10.8W
Operating current	0.114/0.092A
Drain lift	Max. 600mm from indoor unit's top surface
Discharge rate	24 ℓ/h or more
Driving motor	Shading type (Class E insulation)
Drain piping	Connected to drain outlet. PVC pipe VP-20 (O.D.Φ26) can be used.

## Dimensions

Unit : mm

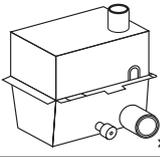
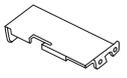
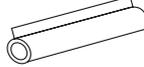
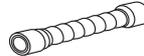
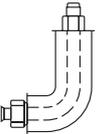
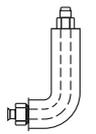


OPTIONAL PARTS

# How to Use / How to Install

## 1 Confirming Supplied Accessories

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

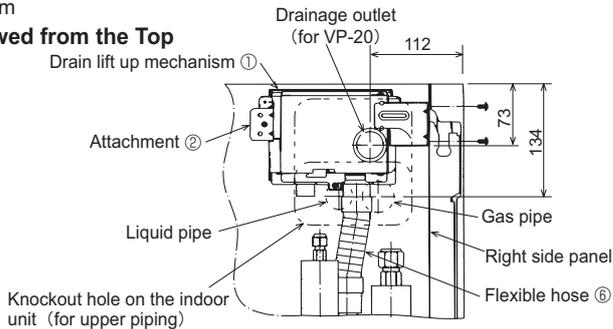
① Drain lift up mechanism  x1	② Attachment  ① Drain lift up mechanism fixture x1	③ Screws (4×10)  For the installation of drain lift up mechanism① x6	④ VP-20 pipe  x1	⑤ Pipe cover  For insulation of VP20 pipe④ x1	⑥ Flexible hose  x1	⑦ Fastener  x1
⑧ L-shaped pipe (gas pipe)  x1	⑨ L-shaped pipe (liquid pipe)  PAC-SH83/84 x1 PAC-SH85 x2	⑩ Insulator A 6t×220×80 (For internal insulation)  For the insulation of L-shaped pipes ⑧ and ⑨ and the refrigerant pipes. x2	⑪ Insulator B 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.
- \* The L-shaped pipes there are bringing are corresponding to either refrigerant plumbing.
- \* 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.

Unit:mm

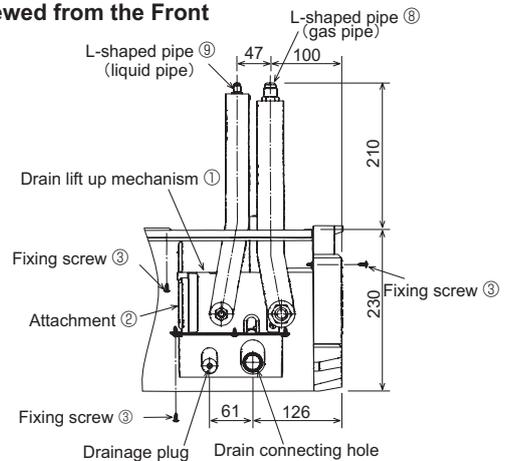
### Viewed from the Top



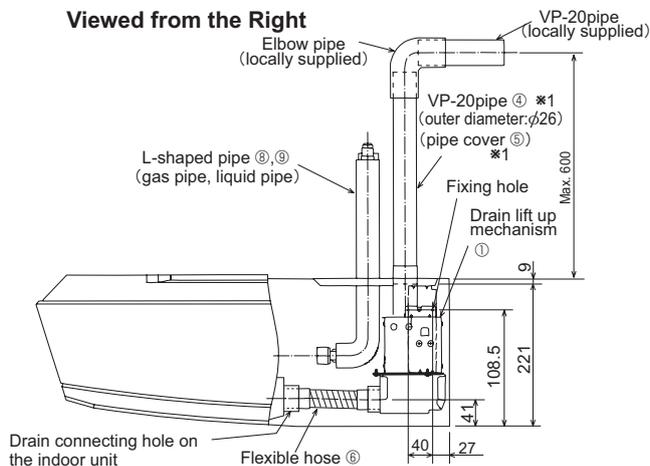
< Table 1 >

Gas pipe	Liquid Pipe	Drain lift up mechanism Model
φ12.7	φ6.35	PAC-SH83
φ15.88	φ9.52	PAC-SH84
φ15.88	φ6.35/φ9.52	PAC-SH85

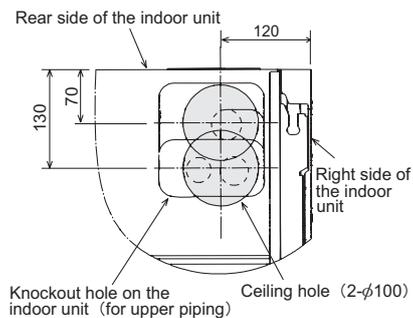
### Viewed from the Front



### Viewed from the Right



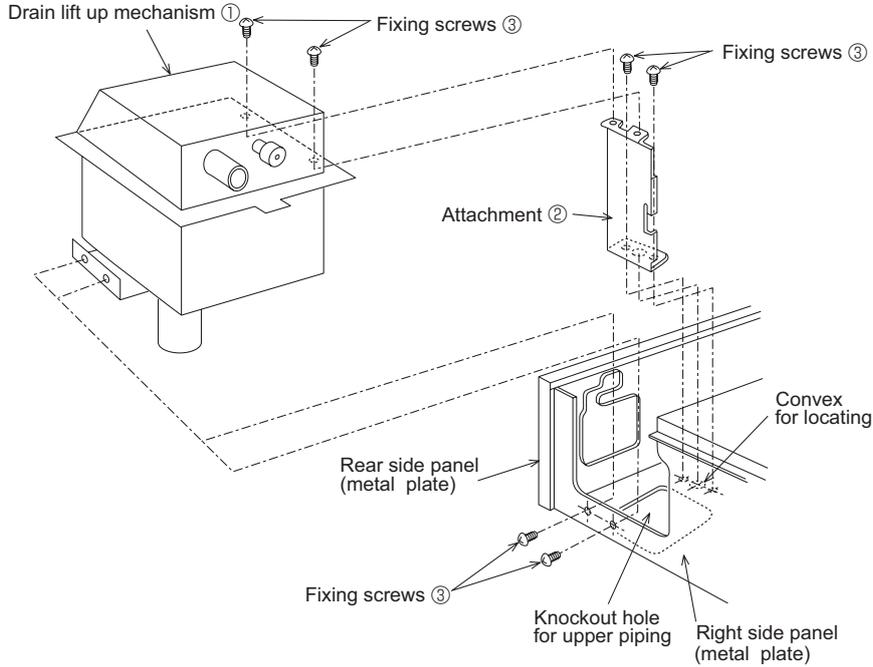
### Positions of Holes on the Ceiling



OPTIONAL PARTS

### 3 Installing the Drain lift up mechanism

- 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.Fix the drain lift up mechanism ① with the fixing screws ③ (×4)



### 4 Refrigerant Piping

\*For details on piping, refer to the installation manual of the indoor unit.

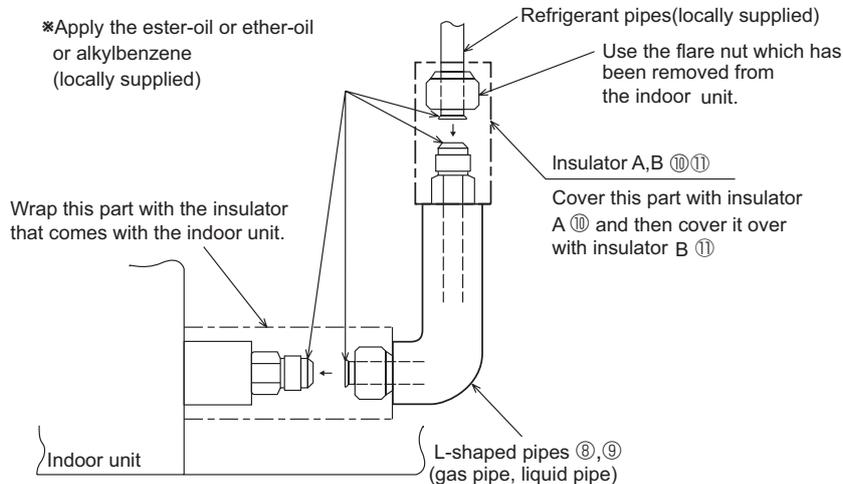
**[With the stop valve of the outdoor unit fully closed]**

- 1.Apply lubricant to the flare sheet of the L-shaped pipes (gas pipe, liquid pipe) ⑧⑨.
- 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 ⑩⑪.

**[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.

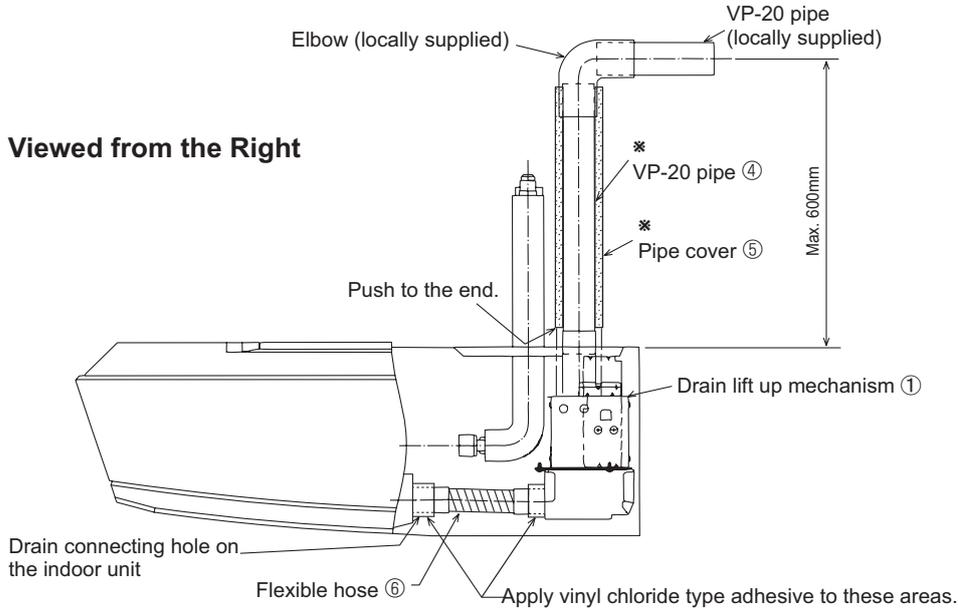


## 5 Drain Piping

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

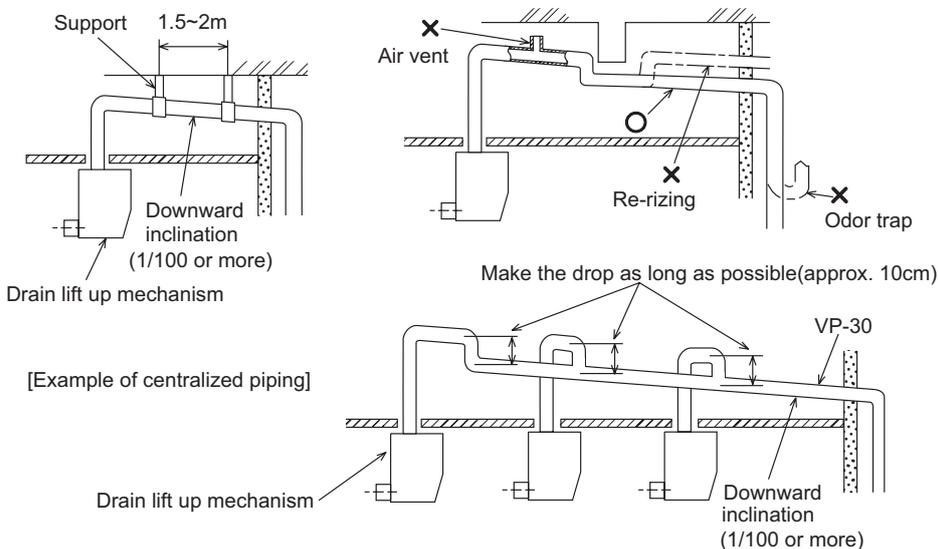
\*For details on piping, refer to the installation manual of the indoor unit.

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.
  4. Apply vinyl chloride type adhesive to the drain lift up mechanism ① and drain connecting hole on the indoor unit, then insert the flexible hose ⑥ into them. Take care that the hose does not twist.
- \*Insulate all pipes, from the drain lift up mechanism up to the outside.



[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:  $\phi 26$ ) 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.

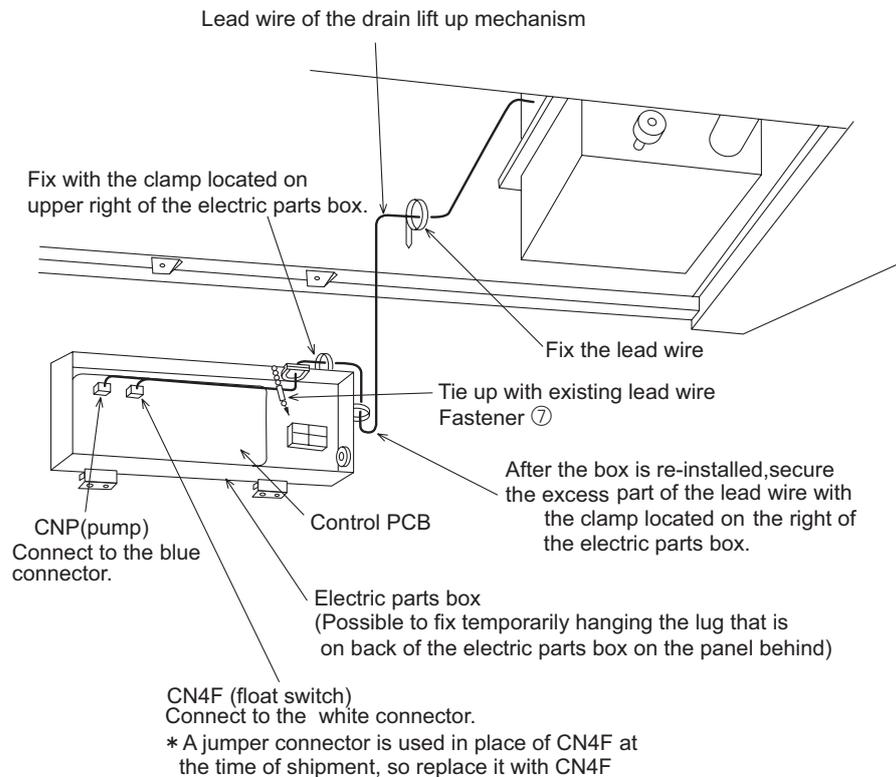
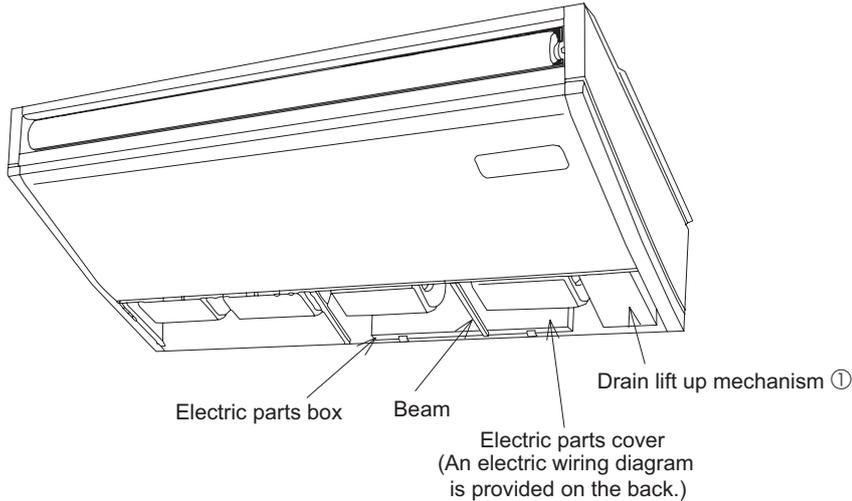


## 6 Electric Wiring

\*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 PCB 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.



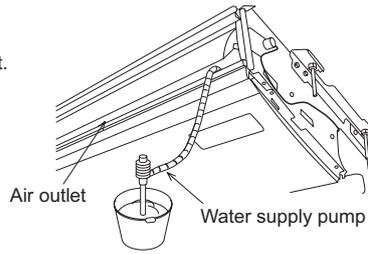
\* The positions of the connectors which must be connected to the control PCB in certain models differ from those specified in the above diagram. Make sure that the lead wire are connected to CNP and CN4F connectors.

## 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.

### 1. Supplying water

Supply approximately 1000cc of water to the air outlet.



### 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.

\*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.

