

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

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

Safety Precautions

- * Be sure to read these safety precautions thoroughly to ensure correct installation.
- * The precautions described here are important for your safety and must be followed.
- * The following two symbols are used to denote dangers that may be caused by incorrect installation. They are classified according to the degree of danger.

WARNING This symbol denotes what could lead to serious injury or death if you install the mechanism incorrectly.

CAUTION 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 is 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
x1	① Drain lift up mechanism 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 x1 PAC-SH85 x2	6t×220×80 (For internal insulation) x2	3t×250×120 (For external insulation) 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.
- * 1 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 supply locally.

Viewed from the Top

Viewed from the Front

Viewed from the Right

Positions of Holes on the Ceiling

[Unit: mm]

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

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)

Drain lift up mechanism ①, Fixing screws ③, Attachment ②, Rear side panel (metal plate), Convex for locating, Knockout hole for upper piping, Right side panel (metal plate), Fixing screws ③.

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.
 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.

Viewed from the Right

Elbow (locally supplied), VP-20 pipe (locally supplied), VP-20 pipe ④, Pipe cover ⑤, Max. 600mm, Push to the end, Drain lift up mechanism ①, Drain connecting hole on the indoor unit, Flexible hose ⑥, Apply vinyl chloride type adhesive to these areas.

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.

Electric parts box, Beam, Drain lift up mechanism ①, Electric parts cover (An electric wiring diagram is provided on the back.)

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.

Refrigerant pipes (locally supplied), Use the flare nut which has been removed from the indoor unit, Insulator A, B ⑩⑪, Cover this part with insulator A ⑩ and then cover it over with insulator B ⑪, Wrap this part with the insulator that comes with the indoor unit, Indoor unit, L-shaped pipes ⑧, ⑨ (gas pipe, liquid pipe).

[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 sput out.
- *Use general-purpose hard vinyl chloride pipes (outer diameter: φ26) and apply vinyl chloride type adhesive to prevent any leakage.
- *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.

Support 1.5~2m, Air vent, Re-rizing, Odor trap, Downward inclination (1/100 or more), Drain lift up mechanism, Make the drop as long as possible (approx. 10cm), VP-30, Downward inclination (1/100 or more), Drain lift up mechanism.

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.

Air outlet, Water supply pump

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.

Drainage plug, Drain pan