

12-2 Cleaning

12-2-1 Manual Cleaning

Cleaning preparation

- Prepare a high-pressure washer or a soft brush, cleaning water, and dust cloths before cleaning the heat transfer plates. Prepare a work/step platform for large PHE because heat transfer plate can clean with suspending on the upper guide bar.
- Cover PHE with protective sheet to prevent the scattering of cleaning water.
- Install a dust filter on the drain port to prevent clogging of the port by scale or dirt from heat transfer plates.

Cleaning method

Two method of cleaning the heat transfer plates are available.

Select a cleaning method depending on the PHE's installation condition and the capacity of effluent disposal.

- **Cleaning by heat transfer plates Removed**

Remove the heat transfer plates from the PHE frame to clean. Place or pile the heat transfer plates and clean both the front and back surfaces using a high pressure washer or a soft brush, such as nylon.

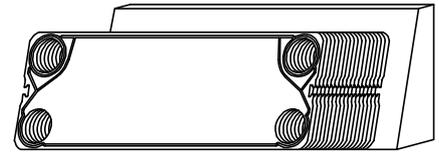


Fig. 12-1 Removal cleaning

- **Cleaning by heat transfer plates Suspended**

Clean the heat transfer plates while they are still suspended from the upper guide bar. Move the heat transfer plates one at a time to the S-Frame or E-Frame direction and clean both the front and back surfaces of the heat transfer plates using a high pressure washer or a soft brush, such as nylon.

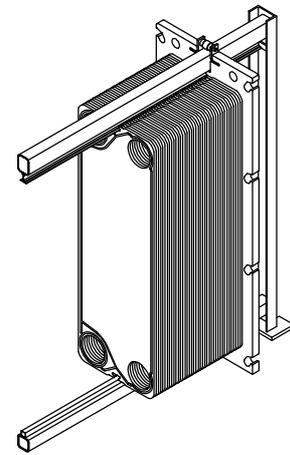


Fig. 12-2 Suspended cleaning

[CAUTION] Do NOT use the heat transfer plates with a steel brush or steel wool.



- If heat transfer plates are damaged by using a steel brush or steel wool, sealing performance could be decreased and it could cause corrosion. Therefore, use a soft brush, such as nylon, so as not to damage the heat transfer plates.



[CAUTION] Do NOT have the nozzle of the high pressure washer close to the PHE components.

- High pressure water may peel the frame's coating or damage the heat transfer plate and plate gasket surfaces. Therefore, keep the nozzle of the high pressure washer at least 100 mm away from the object being cleaned.



[CAUTION] Precaution for using a high pressure washer

- Discharge pressure is 1 to 15 MPaG for the cleaning. Use water and a soft brush, such as nylon, for the scale which is difficult to remove.

12-2-2 CIP - Cleaning In Place

Cleaning in place is the preferred cleaning method when especially cleaning liquid are processed in PHE unit. Appropriate cleaning liquid could achieve a sufficient cleaning effect.

- Please refer to "Plate Cleaning Manual" to select cleaning liquids and agents for PHE.