



Cleaning the plates

Fouling of the plate heat exchanger is often caused by low flow velocity through the heat exchanger. Where the possibility exists to increase the flow this should be tried if the heat exchanger shows signs of reduced capacity or increased pressure drop. Severe fouling requires opening and cleaning the heat exchanger.

- The heat exchanger is opened as explained in operators manual.
- **Steel wool or brushes of carbon steel must not be used**
- Stainless steel must not be used on titanium plates.
- In the first step the heat transfer surface is cleaned by rinsing with a powerful jet of water and scrubbing with a nylon or similar brush.
- Take care not to damage the gaskets.
- The gaskets must be wiped dry with a cloth. Solid particles adhering to the gaskets cause damage and result in damage and result in leakage when the unit is put back in operation.
- The lower portion of each plate as hung in the unit should be inspected carefully and cleaned appropriately as this is the primary area where residual solid material tends to accumulate.

Do not use chlorine or chlorinated water to clean stainless steel or Nickel alloys. Chlorine is commonly used to inhibit bacteria growth in cooling water systems. Chlorine and chlorinated water can rapidly attack the above mentioned materials. For any applications where chlorination must be used with non-titanium equipment, please contact our representative.

Plate cleaning guidelines

- Do not use hydrochloric acids, or water containing more than 300 ppm chlorides, with stainless steel.
- Do not use phosphoric or sulfamic acid for cleaning titanium plates.
- Limit cleaning solution concentration to 4% strength, with temperature not exceeding 60°C unless otherwise specified.
- General guidelines for cleaning are tabulated below:

Type of Fouling	Suggested cleaners
Calcium Sulphate, Silicates	Citric, Nitric, Phosphoric or Sulfamic acid
Calcium Carbonate	10% Nitric acid
Alumina, Metal oxides, Silt	Citric, Nitric, Phosphoric or Sulfamic acid (To improve cleaning you may add detergent to acid)
Biological growth	Sodium Carbonate or Sodium Hydroxide (NaOH)
Greasy deposit	Kerosene and a soft brush.

After cleaning, rinse thoroughly with water

Important!

Sodium hydroxide and concentrated Nitric acid can seriously harm skin and mucous membranes. The solution must be handled with greatest care. Always wear protective goggles and protect hands with rubber gloves.