

► Erosion Due to Foreign Object Contamination

- Application : Circulating Water Cooler
- Operating Period : Approximately 2 months
- Operating Fluids :
Circulating water / Cooling water
- Operating Temperature :
Circulating water side: 35°C
Cooling water side: 34 °C
- Plate Material : Type 316 Stainless Steel

- Phenomenon

The plates developed through cracks, resulting in mixing of the two fluids.

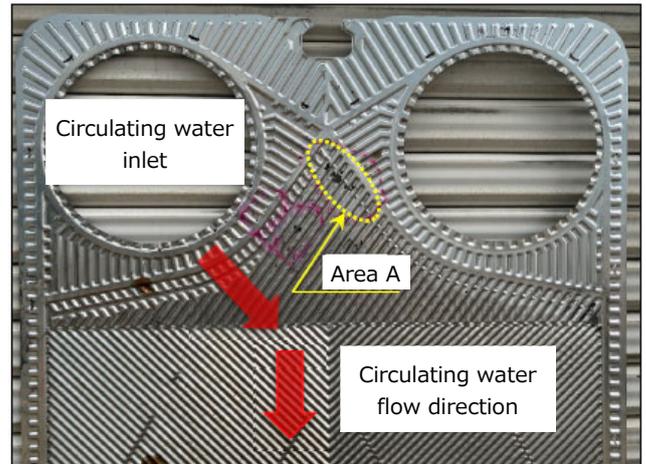
- Cause

Erosion occurred near the plate inlet due to silica sand contained in the circulating water, which led to through-thickness cracking of the plates.

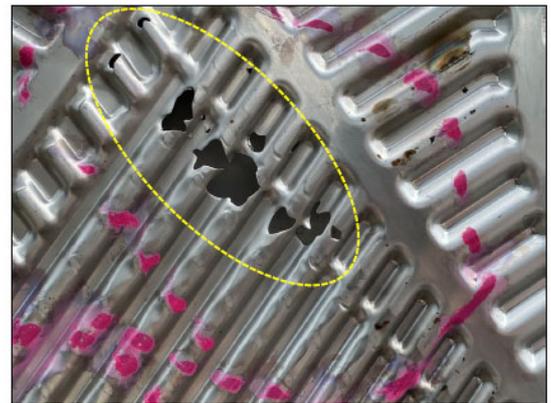
- Countermeasures

Depending on the properties (such as hardness and shape) and the amount of foreign matter contained in the fluid, the plate surface may be worn and eventually develop through cracks.

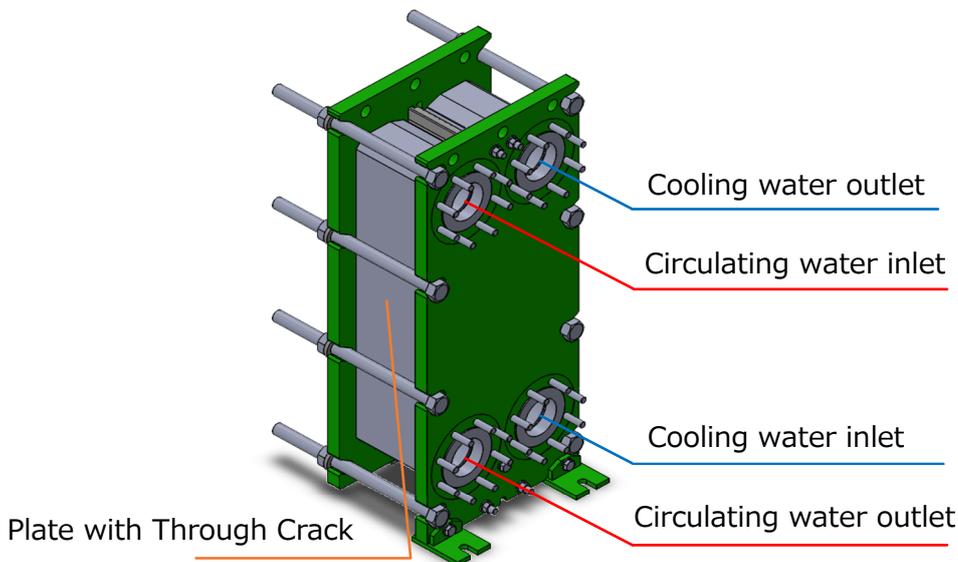
Therefore, countermeasures such as installing a strainer to prevent foreign matter from entering the



Overall View of the Plate



Enlarged Image of Area A



Defective Area