Case Study

Restoring Heat Exchanger Efficiency with CTP's Optiflow® Technology

A strategic heat exchanger began underperforming at an industrial plant, impacting production flow. To avoid costly shutdown of traditional methods, the customer called CTP Environnement. With our Optiflow® technology, the heat exchanger was cleaned without stopping production. The result was a dramatic improvement in throughput and vacuum efficiency, restoring the distillation column's performance to its original design capacity.

The Challenge

A heat exchanger is a critical equipment of the facility's distillation unit. Over time, lime and scale deposits accumulated on the water-side (tube side) of the equipment, creating a thick layer that restricted flow.

This compromised the efficiency of heat exchange, leading to reduced vacuum efficiency, loss of throughput, creating a production bottleneck and risk of downtime incurring significant costs. The customer needed a solution that could:

- **Clean the heat exchanger without stopping production.**
- **Restore vacuum efficiency** to speed up the distillation process.
- **Increase throughput** to remove the production bottleneck.

The Solution

CTP Environnement deployed its Optiflow® system — an online cleaning technology specifically designed to remove deposits from equipment while production continues.

CTP's team started by connecting the Optiflow® to the water-side of the tube-side of the heat exchanger. We injected a powerful but controlled chemical descaling agent into the equipment. The solution targeted and dissolved the lime and scale deposits that had built up inside the tubes.

Real-time monitoring of vacuum pressure and flow rates allowed for precise adjustments during the cleaning process. By tracking key performance indicators (like vacuum pressure and throughput), CTP could ensure optimal cleaning performance and avoid over-exposure to cleaning agents.

The cleaning process was conducted in a closed-loop system, ensuring no contamination or disruption to the larger cooling system. This approach allowed the facility to maintain full production capacity while restoring the performance of its heat exchanger.

The Results

With just a few hours of intervention using CTP's Optiflow® system, the client achieved measurable improvements. The heat exchanger condensing capacity was fully restored, bringing vacuum back to design capacity.

By increasing throughput by 50% (from 80 t/h to 120 t/h), the client was able to eliminate a production bottleneck and significantly boost operational efficiency.

CTP Environnement's Optiflow® technology proved to be a game-changer for this client, delivering major operational benefits with no production downtime.

This makes Optiflow® a powerful, versatile solution for industries seeking to maximize production without sacrificing operational continuity. See how Optiflow® can increase your heat exchange's performance in hours — contact us today to learn more.