Alfa Laval helps Arkema cool things down

A more efficient welded heat exchanger

Case story

When Arkema, a leading European producer of chlorochemicals and PVC, had to replace waste-water cooling plate heat exchangers at a plant in France, they saw it as an opportunity. A chance to find a solution that was more robust and cost-efficient. Alfa Laval showed them how the welded Compabloc heat exchanger would do the job better, and they were convinced. Now, two trouble-free years later, they still agree.

Low-down and dirty

Arkema produces different types of PVC by combining vinyl chloride monomers. Part of the process involves the disposal of wastewater, which first must be cooled. But with Arkema's previous heat exchanger plates, the process was presenting a number of challenges.

"We had a number of problems with the old plates" says Emmanuel Corrado, production manager at Arkema's VCM plant where the heat exchanger in question was situated. "We knew we needed to clean the plates, but it would have been quite a big and costly operation because the plates had gaskets. They were fragile and would need to be replaced when we did the cleaning," Corrado says.

When is replacing more cost-efficient than cleaning?

Arkema began looking at alternatives. As part of this process, Alfa Laval visited the Arkema plant and presented the benefits of the welded Compabloc heat-exchanger. Corrado and the others at Arkema were pleased with the cost efficiency the Compabloc product could provide.

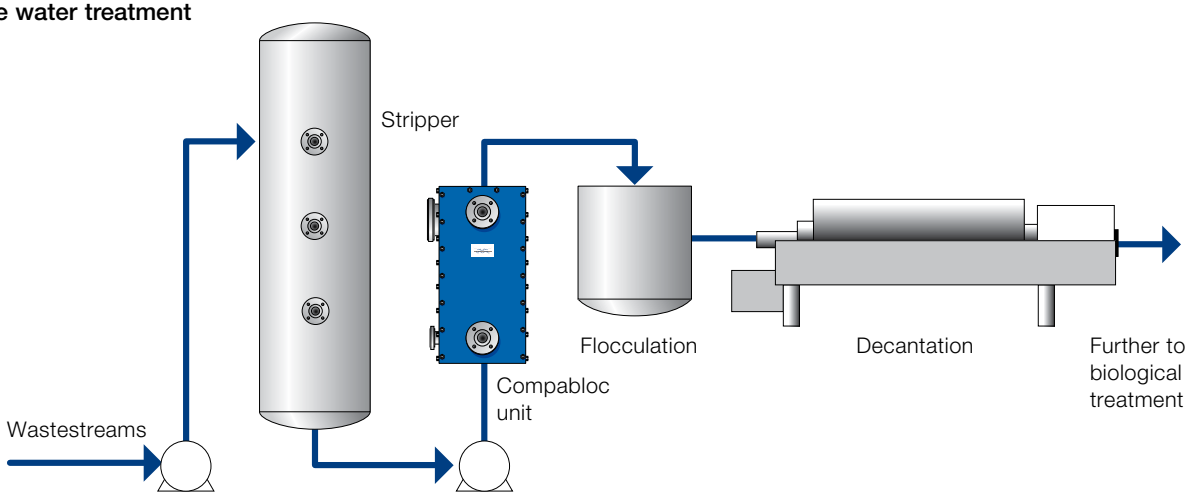
Emmanuel Corrado, production manager at Arkema's VCM plant, shows off the Alfa Laval Compabloc heat exchanger.

"As it turned out, it was less expensive to install a new Compabloc heat exchanger than it would have been to clean the old ones. Also, the new heat exchanger was made of titanium, which was what we wanted in order to reduce corrosion."

The deciding factor

The final plus that tipped the scale in favor of the Compabloc was that it was welded with no gaskets. The frame consists of four corner girders, top and bottom heads and four side panels with nozzle connections. These components

Waste water treatment



About Compabloc

Superior heat transfer coefficient

- ASME and PED-coded design for up to 35 barg (500 psig) /350°C (660ºF)
- Up to 330 m2 (3,500 ft2) of heat transfer area
- Low pressure drop and high heat transfer coefficient, which makes it ideal for reboiler and condenser duties

Designed for Efficiency

- Corrugated plate pattern that ensures optimized flow
- Extremely compact, thus saving on capital and installation costs
- Nozzles and pass configurations that can be customized to meet particular requirements

This Alfa Laval Compabloc heat exchanger has been operating for two trouble-free years at the Arkema VCM plant in France.

are bolted together and can be quickly taken apart for inspection, service or cleaning.

"The welded construction meant that we wouldn't have the same risk of leaking that you have when you have gaskets. And because there are no gaskets, it's easy to clean it if needed," Corrado says.

2 years and still trouble-free

One compact Compabloc heat exchanger was custom-designed for Arkema replacing two existing units. After two years, there hasn't been a need to clean the plates, and it's been completely trouble-free.

While Corrado points out that it takes many years in a live environment to fully assess the value of a heat exchanger like the Compabloc, up until now, he has only positive feedback.

"For the moment, I'm very happy. It's been working for two years with no problems, and I know that if we do have to clean the plates, it will be manageable. I expect it to help us reduce the time and money spent on resources for many years to come."

Fast Facts:

The customer

Arkema's three business segments Vinyl Products, Industrial Chemicals and Performance Products—combine global or European market-leading industrial processes and lines with internationally recognized brands and products.

The challenge

Arkema's heat exchangers at the VCM plant in France needed to be cleaned, but this would be a costly and time-consuming process. Instead they replaced it with the welded Compabloc heat exchanger.

The Benefits

- Less resources spent, both in terms of time and costs
- Easy to access the plates for cleaning and service
- No gaskets to replace as with the plant's previous heat exchangers

About the Solution

The Compabloc welded plate heat exchanger from Alfa Laval is suitable for operation in chemically aggressive environments and for handling high-temperature fluids. With no gaskets between the corrugated heat transfer plates, maintenance is straightforward and efficient.

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com.