APPLICATION

Crude oil desalting

Removing salts and impurities from crude oil is critical for maximizing the efficiency of a refinery's distillation process. Whether you need to improve desalter performance or effluent water management, Alfa Laval has the experience and the solutions to solve your problems.

Alfa Laval in crude oil desalting

Today, there are more than 100 Alfa Laval heat exchangers installed in desalting units as feed/effluent exchangers and effluent coolers. These include our welded spiral heat exchangers, Compabloc heat exchangers and wet surface air coolers.

To learn how other refineries use Alfa Laval solutions in their crude oil desalting processes, visit **alfalaval.com/refinery/experience**.

Efficiency improvement

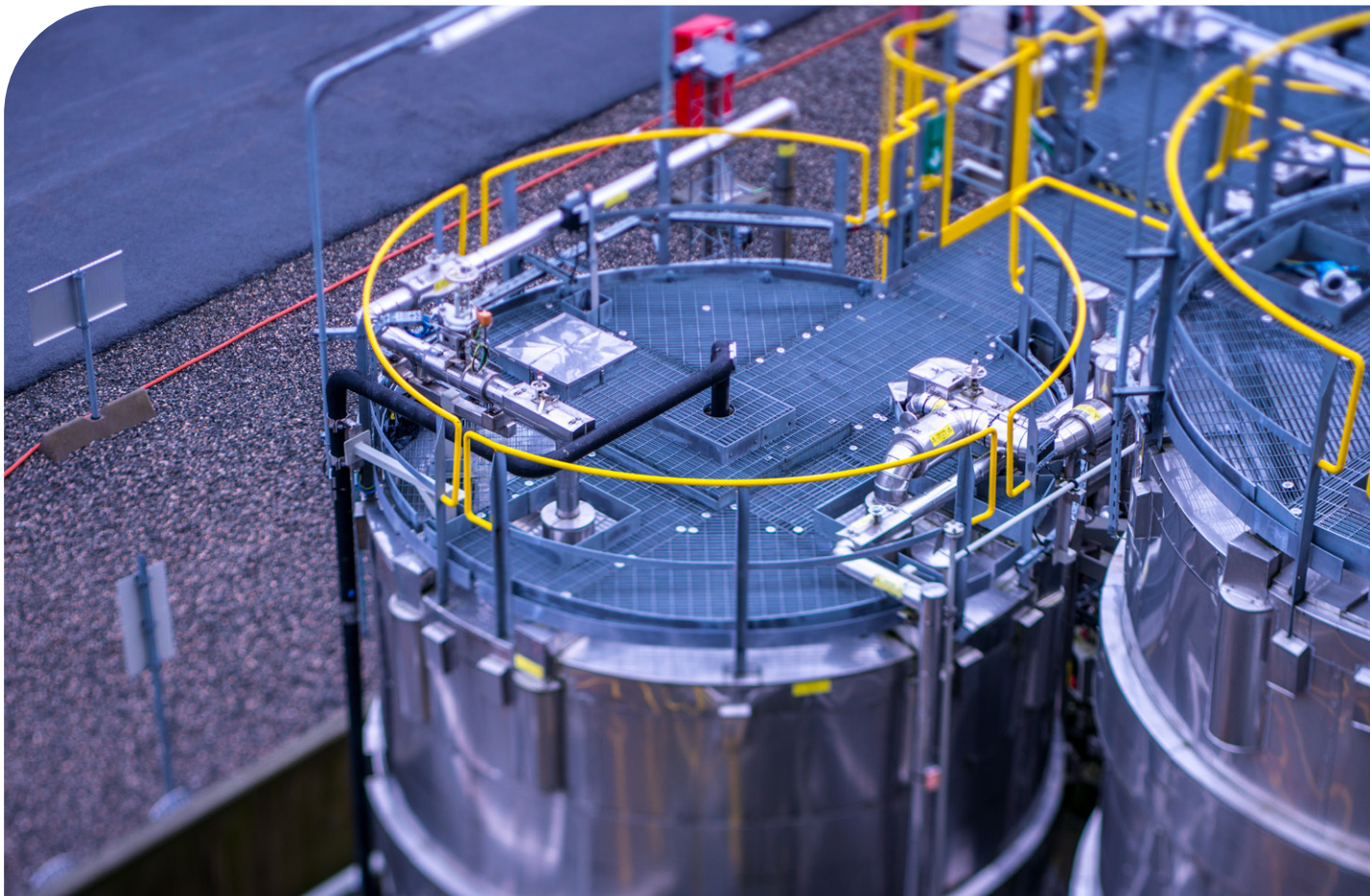
Efficiency is low in many desalter units, meaning that the crude leaving the desalter stage contains salt and impurities that cause corrosion and fouling issues in downstream process equipment. Whether the solution lies in optimizing the temperature in the desalter itself, or adding a second desalter stage, it will require a process design with maximum energy recovery from the desalter effluent stream.

Using spiral or Compabloc heat exchangers as feed/effluent exchangers maximizes energy recovery within a single heat exchanger. By designing these heat exchangers based on experience, we help you ensure that low-performing heat exchangers no longer create a bottleneck in your plant.

Maximal effluent cooling

While optimizing the temperature in the desalter is important for process efficiency, maximizing cooling of the effluent water may be even more important for sending this water for biological treatment in the wastewater plant. Maximizing energy recovery in the feed/effluent exchangers minimizes the final cooling duty of effluent water.

Still, it can be difficult to reach the required effluent temperature, specifically during hot summer months or in areas with high ambient temperatures. However, using Alfa Laval Compabloc, spiral heat exchangers or wet surface air coolers minimizes the temperature approach to the cooling media, safeguarding adequate cooling all year round.



Improved reliability and availability

A poor performing desalter process not only leads to corrosion and fouling issues in downstream process equipment or too high effluent water temperature in the wastewater treatment plant. It can even create a bottle-neck for the whole distillation process.

Alfa Laval's design expertise reduces the negative effects of desalter feed water scaling and effluent water plugging in the desalter heat exchangers. Thanks to the lower fouling tendency and easier access to the heat transfer channels for cleaning, these solutions provide maximal availability and uptime for your process.

Furthermore, Alfa Laval can help you with optimal material selection to reduce or even eliminate corro-sion tendency in these high chloride content services. This ensures you get the absolute lowest total cost of ownership.

CAPEX savings

Using Alfa Laval's highly efficient and compact heat exchangers can also minimize investment costs in this process. Specifically, this involves replacing several large shell-and-tube exchangers in high-grade materials with a single Alfa Laval exchanger. Maximizing cooling of effluent water, even during summertime or at high am-bient temperatures also eliminates a further investment in effluent cooling, such as with chillers or waste-water tank coolers.

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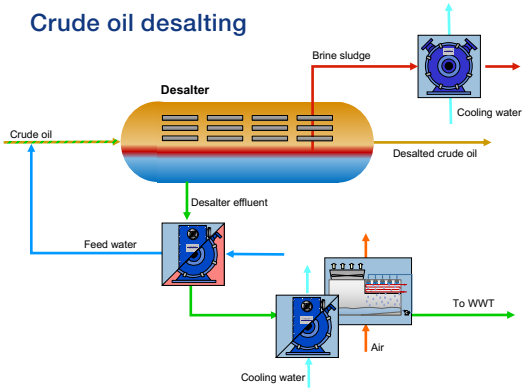

With Alfa Laval as your partner, you get access to world-leading expertise in process optimization. Together with your process engineers, we create highly efficient and reliable solutions that will take your plant to the next level.

Learn more and see all the facts from real-life customer cases at **www.alfalaval.com/refinery**

Our service offerings

Every Alfa Laval solution is backed by the market's only supplier with deep process knowledge and a global network of experienced experts.

Get to know more about our maintenance solutions at **www.alfalaval.com/refinery/service**

Products and solutions featured

Take a closer look at:

- **Compabloc**
- **Niagara Wet Surface Air Coolers**
- **Spiral heat exchangers**

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