



Compact AlfaCond saves steam and slashes maintenance costs

Sappi Limited, Maastricht Mill, Maastricht, The Netherlands

The AlfaCond 400 condenser at work in the Sappi Maastricht mill.

“We’re impressed by just how deep a vacuum we achieve with the AlfaCond 400,” says Peter Pijpers, manager Technology and Engineering Sappi, Maastricht Mill. “We’ve been able to increase the amount of steam recovered for use in the drying section of the paper machine beyond what we’d hoped. And maintenance is much easier and cheaper.”

EUR 90,000 in wasted condensate

Leading paper producer Sappi originally approached Alfa Laval because a shell-and-tube condenser in the drying section reached the end of its life. It was leaking frequently, and every leak meant blocked off tubes, reduced area, loss of vacuum and condensate literally going down the drain rather than being used to generate steam for the paper mill’s drying process.

Sappi normally recovers 4 tonnes of condensate per hour. During the final year the shell-and-tube heat exchanger was in operation, 9 months worth of condensate went to waste. Even taking Sappi’s low steam costs into consideration, the loss added up to approximately EUR 90,000. The AlfaCond solved the problem.

A compact solution

Sappi was also looking for a compact solution. The old shell-and-tube was located in a narrow corridor on the ground floor, which made it extremely difficult to access for cleaning and service. They wanted to place the new heat exchanger on the 6-metre floor for easier maintenance. “AlfaCond was a perfect choice because it offers a pressure drop that is equal to that of a shell and tube heat exchanger at a fraction of the size and weight,” says Ron Faber, sales engineer, Alfa Laval.

6 metres up – a profitable surprise

Because the AlfaCond is compact enough to be placed on the 6-metre floor, an even deeper vacuum is created due to the static head. This deeper vacuum increased savings on steam in the drying process more than Sappi had anticipated.

“We could not have reached the same vacuum with a new shell-and-tube condenser as we could not have fitted it in the current location. We wanted to place it here for easier access, but we’re getting more steam too.”

Peter Pijpers, Sappi Maastricht Mills.



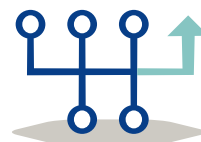
Energy savings

250 kW in condensate savings and deeper vacuum saves steam.



Footprint

Easy access for cleaning and maintenance with compact solution at service platform.



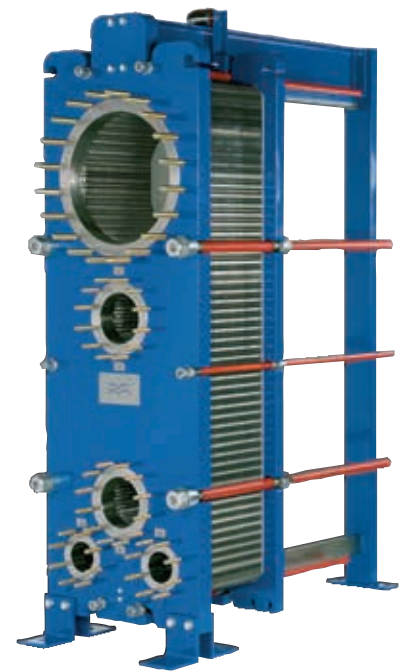
Technology conversion

Shell-and-tube heat exchanger to Alfa Cond – size and weight reduction while maintaining pressure drop.

Features and benefits

The world's first tailor-made plate condenser was developed specifically for condensing vapour under low pressure or vacuum conditions in evaporation and distillation systems. It has a large vapour inlet collection and two small condensate outlets.

- Plates specially designed for condensation.
- Condensate and cooling water never mix, eliminating a source of pollution.
- Flexible design: easy to adapt to changing capacity demands.
- Compact size for leaner installation.
- Minimized fouling and easy maintenance for maximum uptime.

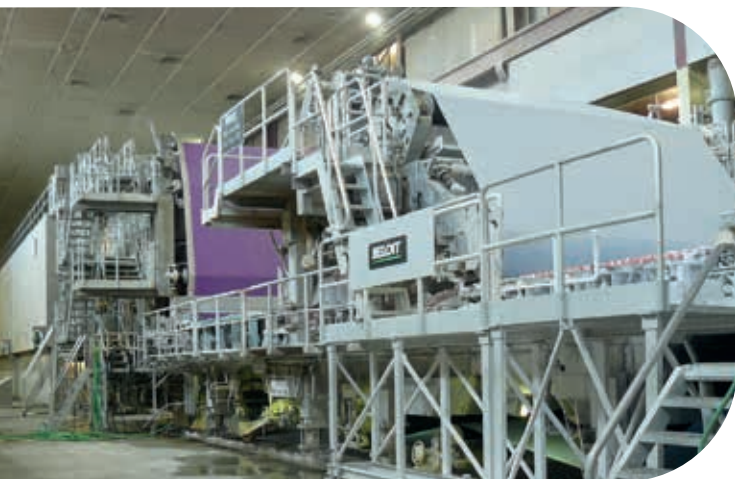


Low costs, hassle-free maintenance

The AlfaCond is also extremely economical to maintain. The design and placement ensure that heat transfer surfaces are easy to access for inspection and mechanical cleaning. And service can be carried out in place without the need to dismantle the system. In addition, a window was added to the installation to allow Sappi to monitor the amount of condensate produced – and head off any problems at the outset.

Everyone is happy

“In principle we're happy with the result,” concludes Peter Pijpers. “We don't have to look into it anymore – it works. Maintenance is happy. Production is happy. Everyone is happy.”



Manufacture of fine coated board and paper at the Sappi Maastricht mill.

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.

100006526-1-EN-2205

Alfa Laval reserves the right to change specifications without prior notification.

Fast facts

The customer

Sappi is a global company focused on providing dissolving wood pulp, paper pulp and paper based solutions to a direct and indirect customer base across more than 100 countries. Sappi's Maastricht Mill on the river Meuse (The Netherlands) was the first in Europe to produce coated papers. Today it's a leading manufacturer of fine coated board and paper.

The challenge

A shell-and-tube heat exchanger had reached the end of its life. It was leaking frequently, and every leak meant blocked off tubes, reduced area, loss of vacuum and condensate literally going down the drain rather than being used to generate steam for the paper mill's drying process. In addition, the heat exchanger was difficult to access and expensive to maintain.

The Solution

An Alfa Laval AlfaCond 400 was installed on the 6-metre floor at the mill for a highly efficient and extremely compact solution.

The benefits

- Deeper vacuum saves steam
- Compact solution and easy installation
- Reduced maintenance costs
- Easy access

