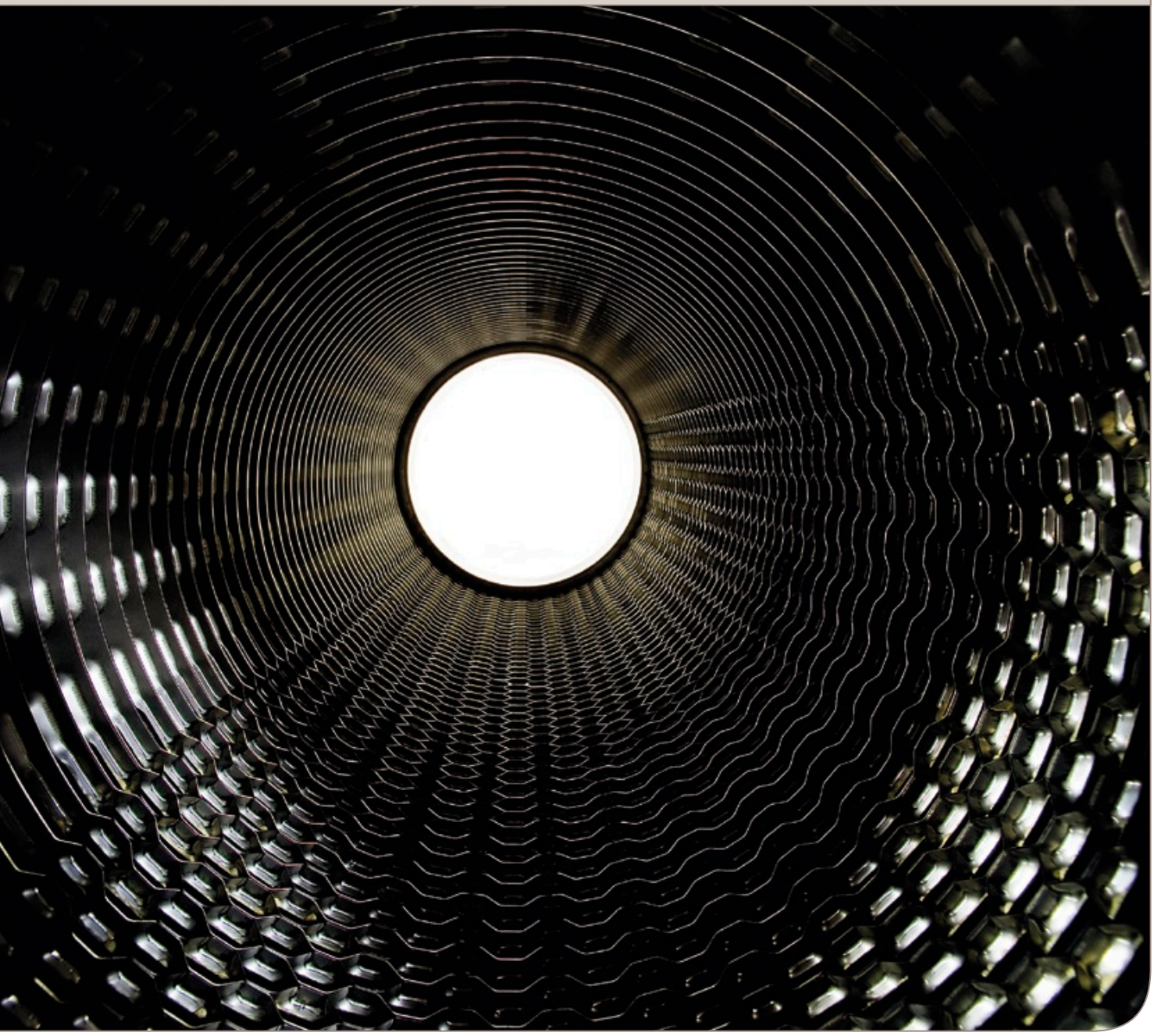
WideGap – a champion in your corner

Heat exchangers for fluids containing solids, fibres or particles



Higher heat recovery, maximum process uptime

In WideGap plate heat exchangers clogging is minimized and process uptime is maximized. The secret is the wide gaps between the plates, the plate pattern and the smooth port design which, together, allow fibres and particles to flow easily.

Recover more heat, reduce your energy costs

Compared to shell-and-tube heat exchangers, WideGaps offer a higher degree of heat recovery that provides lower energy consumption.

This is due to the counter-current flow in the heat exchanger, which makes it possible to achieve a close temperature approach, i.e., a minimal temperature difference between the hot and cold media.

Thus, heat sources can be utilized that were previously seen as waste heat. As a result the steam consumption can be reduced and excess steam can be used for electricity production.

A lightweight, requiring much less floor space

Much lighter and occupying as little as 20% of the floor space, a WideGap unit gives you the same capacity as a shell-and-tube. Filled with process media, a WideGap heat exchanger is about 80% lighter than a comparable shell-and-tube unit.

Increased uptime

With WideGap, service intervals are longer because clogging is minimized.

For applications with fibrous media, regular backflushing ensures even longer service intervals.

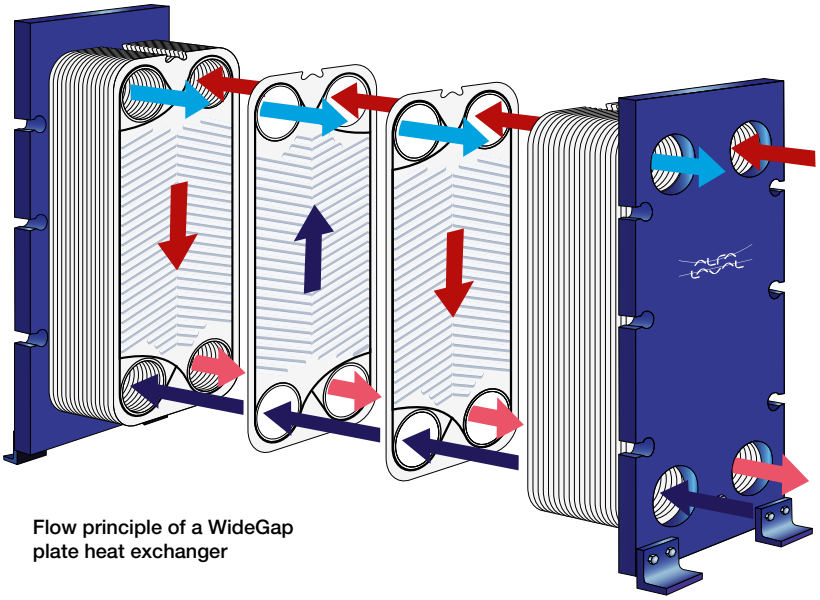
For fouling duties, it is normal procedure to clean WideGap regularly with chemicals in order to maintain the high heat transfer efficiency.

With an Alfa Laval Cleaning-in-Place system this couldn't be easier. WideGap's much smaller hold-up volume, compared to a shell-and-tube heat exchanger, minimizes consumption of chemicals, reducing waste water and cleaning time.

For inspection, the unit can be opened easily by just one person in hours.

WideGap expands with your plant

Whatever your future plans, WideGap heat exchangers offer a flexible solution. When your WideGap duty changes you can easily optimize performance by reconfiguring the plates to fit the new duty.



Flow principle of a WideGap plate heat exchanger

"We have installed three Alfa Laval WideGap 350s for cooling of bleaching filtrate by cooling water before biological treatment. They were started up in April 2008 and, since then, their performance has lived up to all our expectations, despite the fibrous nature of the product. They are easy to open and we clean them using high pressure water only. The glued gaskets stay firmly in place on the plates during re-assembly."

*Zellstoff Pöls AG**

Why waste your energy?

There are thousands of WideGap units saving energy for our customers worldwide in a range of applications and industries.

Fuel ethanol
For fibrous raw materials like grain, cassava or cellulose, WideGap is the perfect choice. During both fermentation and distillation, WideGap enables heating and cooling processes to be optimized and more valuable energy to be recovered. Cooling liquefied mash using WideGap makes it possible to recover heat from any stream in the plant – process water, beer or mash – thus helping to reduce overall energy consumption. Likewise, when cooling fermented mash using WideGap, no chilled water is necessary.

Pulp and paper
In today's pulp and paper industry, there is intense focus on recovering heat. WideGap heat exchangers can help recover and re-use far more energy from the industry's warm, fibrous waste streams than conventional technologies.

Sugar
For the raw juice and limed juice containing fibres, WideGap is the perfect solution. Liquid, steam or low pressure vapour can be used as heating media. Pan vapour or vapour from the last evaporation effect have historically been regarded as waste heat, but a double-sided WideGap makes use of this energy. This saves the more valuable heat sources for other duties, such as production of electricity that may be fed to the national grid, or production of hot water for the local district heating network.

Petrochemicals
In the petrochemical industries WideGap is the ideal buy-and-forget solution as a pellet water cooler. Also, as a partial condenser to remove vapours from inerts, WideGap offers low pressure drop and more efficient subcooling of process media. This provides better product recovery and energy savings through reduced load on the vacuum pump. Savings can also be made on chilled water in systems where a second stage condenser is used, thanks to better utilization of the cooling water.

Condensers for heat recovery
WideGap is the ideal heat exchanger for condensation of medium and low pressure process vapours to heat process media. The wide channel helps keep the pressure drop low on the vapour side while it is possible to choose the right channel width on the process media side. This provides opportunities to recover the energy of low grade vapours.

WideGap an energy saving champion for these duties in your plant

Fuel ethanol	Pulp and paper	Sugar	Petrochemicals
Mash coolers	Bleaching effluent heat recovery (or cooling)	Cane or beet raw juice	Pellet water cooler
Fermenter coolers	White water heating or cooling	Prelimed juice	Partial condenser
Mash/mash interchanger	Steam heaters/condensers	Limed juice	
Ethanol condenser	Duties containing particles or fibres, for example, green liquor	Press water	

* Zellstoff Pöls AG is the largest manufacturer of high-quality elemental chlorinefree (ECF) bleached softwood sulphate pulp in Central and South East Europe.

WideGap – the winner on technicalities

Alfa Laval WideGap heat exchangers offer some unique technical features.

Non-clogging inlet port
A special port design with big studs keeps the inlet port wide open and avoids clogging.

Plate design gives high thermal efficiency
On the WideGap plates, the risk of dead spots where fouling can start is minimized. This is achieved by a patented plate pattern that provides even distribution of the media across the plates.

WideGap's superior heat transfer characteristics are thanks to the turbulence created by the underlying herring bone pattern.

The unique plate pattern ensures a very strong plate. This allows thin plates to be used at higher pressure, with lower weight as a result.

The Alfa Laval 5-point alignment system ensures consistent and precise sealing throughout the plate pack by providing exact positioning of the plates horizontally and vertically.

Plates and gaskets in a variety of materials
The WideGap plates are available in stainless steel as well as in more corrosion-resistant materials.

The WideGap can be fitted with gaskets in a variety of elastomers to maximize lifetime for each specific duty.

The combination of gaskets and plate material ensures trouble-free operation, regardless of process media.

Robust frame, easy to open
WideGap has robust carbon steel frames at the front and the rear, with the plate pack between. The pressure plate is equipped with a roller to allow effortless opening of the heat exchanger.

The unit is easy to open and close due to bearing boxes fitted to four of the tightening bolts on the frame.

World-class service

Install an Alfa Laval heat exchanger and you gain access to a world-class parts and service organization that will help you get the most out of your installation. We are just a phone call away, 24 hours a day, 365 days a year, and our mission is to help keep your equipment up and running.

WideGap

Does your process involve heating and cooling of thick, fibrous, viscous fluids? Check out the WideGap plate heat exchanger from Alfa Laval.

Since the gaps between the plates are wider, fibres and particles flow more easily, minimizing clogging and maximizing process uptime. In addition, WideGap gives you much higher thermal efficiency than a shell-and-tube unit, allowing you to recover more heat from your process and save energy.

WideGap beats any conventional alternative and, despite its low weight and compact design, it's a tough match for all competing plate heat exchangers.

WideGap – a champion in your corner

Alfa Laval in brief

Alfa Laval is a leading global provider of specialized products and engineered solutions.

Our equipment, systems and services are dedicated to helping customers to optimize the performance of their processes. Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals. Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

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

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