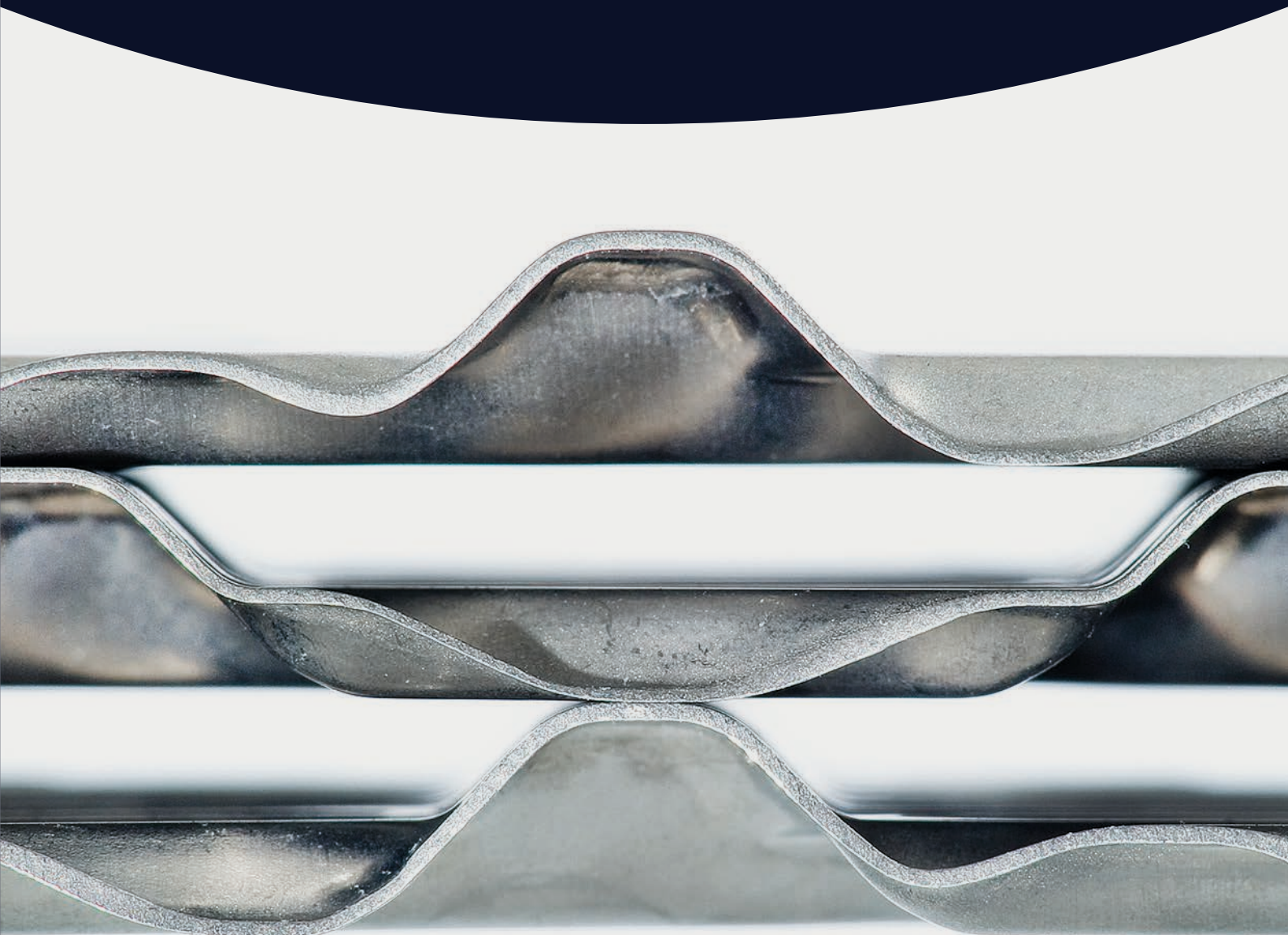


Mind the gap

Alfa Laval WideGap
– heat exchangers for fluids
containing solids or fibres



40–50%

cut in live steam consumption

SantelisaVale replaced 15 inefficient shell-and-tube units with six Alfa Laval WideGap plate heat exchangers. The WideGaps recover heat from two process streams and use it to preheat mixed juice. The revamp led to a cut in live steam consumption by 40–50%. The excess steam is now used for electricity generation.



Higher heat recovery, maximum process uptime

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

Recover more heat, reduce your energy costs

An Alfa Laval WideGap offers a higher degree of heat recovery than shell-and-tube heat exchangers. Thanks to its counter-current flow a WideGap can heat the cold stream to a temperature very close to that of the entering hot stream, maximizing energy recovery.

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

A lightweight, requiring much less floor space

The high thermal efficiency of a WideGap makes it very compact. Compared to a shell-and-tube, a WideGap occupies as little as 20% of the floor space and is about 80% lighter when filled with process media.

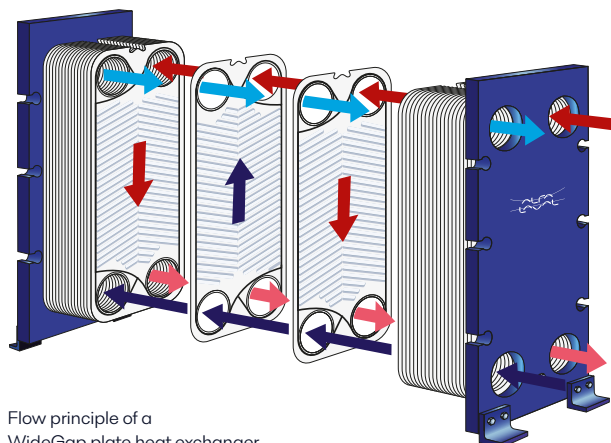
Increased uptime

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, regular cleaning is usually performed using CIP (cleaning in place) equipment that flushes cleaning chemicals through the unit while it is closed. WideGap's small hold-up volume minimizes chemical and water consumption, and shortens cleaning time.

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 operating conditions.



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

WideGap is the perfect choice for fibrous raw materials like grain, cassava or cellulose. 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 – helping 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

WideGap is an excellent solution for raw juice and limed juice containing fibres. 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 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

WideGap is the ideal buy-and-forget solution as a pellet water cooler in the

petrochemical industries. It can also be used as a partial condenser to remove vapours from inerts, offering low pressure drop and more efficient subcooling of process media. The result is 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 perfect 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.



Alfa Laval Service – Extending performance

Regular maintenance is key to achieving optimal operating efficiency and return on investment. Alfa Laval Service offers a wide range of services and products that cover the entire life cycle of your WideGap heat exchanger – from start-up to monitoring services. Examples include installation and commissioning, regular maintenance, genuine spare parts, reconditioning, redesign, cleaning services, condition audits and performance audits. With Alfa Laval as your service partner, you get full support on a global scale.

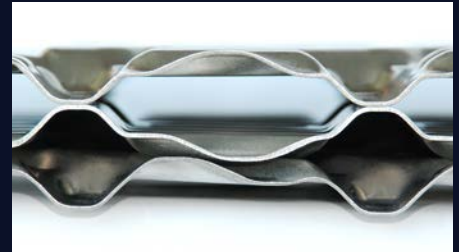
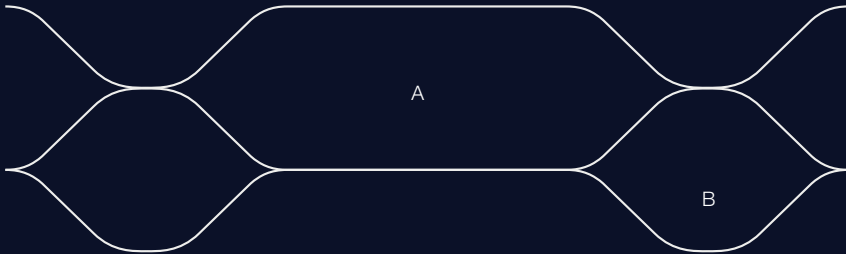
Over the past 130 years, Alfa Laval has built a global service network with a strong local focus. Alfa Laval has service specialists ready to assist you in nearly 100 countries and our efficient logistics chain makes sure you get the spare parts you need.

Configurations and models

An Alfa Laval WideGap can be configured to handle fibrous/dirty fluids in either one or two channels, so that an optimised fit can be made to the actual process fluids. The pictures below show cross section views of the two different plate pack configurations.

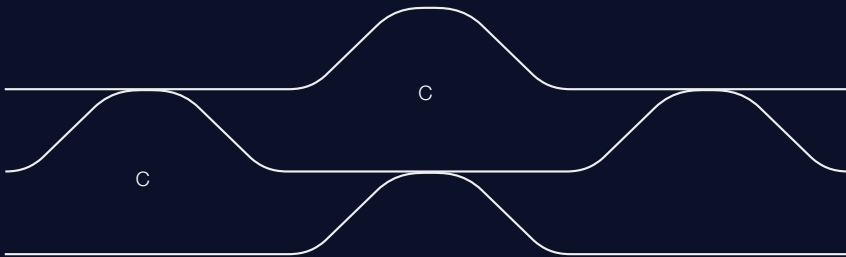
Single sided WideGap

One extra wide channel for fibrous/dirty fluid (A) and one channel for non-fibrous fluid (B).



Double sided WideGap

Two wide channels for fibrous/dirty fluids (C).



Alfa Laval WideGap is available in four different sizes and with a variety of plate and gasket materials to ensure trouble-free operation, regardless of process media. WideGap 350 is available with two types of plates: S plates and X plates. The X plate offers extra wide distance between plates.

	WideGap 100S	WideGap 200S	WideGap 350S	WideGap 350X	MA30-S	MA30-S/M
Plate material						
- Alloy 316	X	X	X	X	X	X
- Alloy 254	X	X	X			
- Titanium	X		X		X	X
Gasket material						
- NBR	X	X	X	X	X	X
- EPDM	X	X	X	X	X	X
- FKM	X	X	X			
Design pressure, max	11 bar	11 bar	11 bar	11 bar	11 bar	11 bar
Design temperature, max	160°C	160°C	180°C	145°C	140°C	130°C
PV code	ALS, PED, ASME	ALS, PED, ASME	ALS, PED, ASME	ALS, PED, ASME	ALS, PED, ASME	ALS, PED, ASME
Port diameter	100 mm	200 mm	350 mm	350 mm	300 mm	300 mm
Free channel*	11/5 or 8/8 mm	11/5 or 8/8 mm	11/5 or 8/8 mm	17/5 or 11/11 mm	11/11 mm	11/5 mm

*The average distance between the plates



Wide, wider, **WideGap**

Alfa Laval WideGap is the perfect heat exchanger for those thick, fibrous, viscous, coarse, dirty, rough, crude and clumpy fluids you work with.

The wide gaps between its plates allow fibres and particles to easily pass through the heat exchanger with minimum clogging and maximum process uptime as a result.

A WideGap heat exchanger has much higher thermal efficiency and better flow geometry than a conventional alternative. This leads to a number of benefits such as compact size, better heat recovery, lower cooling water consumption, the possibility to use lower grade steam and increased production.

Visit www.alfalaval.com/widegap or contact your local Alfa Laval representative to learn more.





This is Alfa Laval

The ability to make the most of what we have is more important than ever. Together with our customers, we're innovating the industries that society depends on and creating lasting positive impact. We're set on helping billions of people to get the energy, food, and clean water they need.

We pioneer technologies and solutions that free our customers to unlock the true potential of resources. As our customers' businesses grow stronger, the goal of a truly sustainable world edges closer. The company is committed to optimizing processes, creating responsible growth, and driving progress to support customers in achieving their business goals and sustainability targets. Together, we're pioneering positive impact.



Contact Alfa Laval

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