Improving sustainability with welded solutions

The passion and expertise to improve sustainability

Imagine a more sustainable world. A world where increased efficiency and renewable solutions have reshaped our economy. A world where new ways of doing business create new potential, both for our planet and for profitability.

For Alfa Laval, building this world is at the core of how we think and how we act. For decades, improving sustainability has been the driving force in our **innovation**. It has led to the development of welded heat exchangers that set new standards of **energy efficiency** and create new opportunities in **clean energy** industries.

But it's more than technology. It's the **people**: experienced experts with deep process knowledge and a global service presence. We are the partners who will be at your side today, and for every day to come, also in your sustainable development. By sharing our unique insight and expertise, we help you re-think your processes to meet the needs of a changing market – and a changing planet.

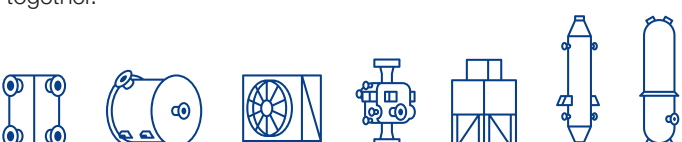
Ultimately, a more sustainable world means a commitment to seeing beyond where we are. Let's bring our competencies together today, to start imagining what's possible tomorrow.

Alfa Laval welded heat exchangers

What does sustainability mean for your business? We believe it means making a commitment beyond today, so you can have long-term confidence in your production, with support both for profitable growth and for positive environmental impact.

Alfa Laval welded heat exchangers make it possible to build a more sustainable world. Available for a wide range of heating and cooling duties, they improve energy efficiency and waste recovery with patented innovations and unique features that boost thermal performance and enhance reliability.

Our products are built to last. But Alfa Laval offers more than technology. Our people are experts who can deliver deep process knowledge. And our unparalleled global service organization ensures optimal performance throughout your heat exchanger's lengthy service life. As your partner, we will be by your side, today and every day, as we reshape the energy economy – together.



Improving sustainability with welded solutions

Compabloc

Discover how to improve sustainability

Compabloc remains the market leader. Engineered for superior reliability and performance under challenging conditions, it offers 3-5 times the thermal efficiency of traditional shell-and-tube solutions – along with a compact design that is easy to install and service. Unique innovations, based on decades of experience in heat transfer, enable more reliable and efficient performance, helping you save energy and improve sustainability.

C-Weld™

Superior cleaning and extended performance

End-to-end laser welding protects against corrosion and guarantees the accessibility of the plates.

SmartClean™

Fast and efficient flushing of fouling material

Free-flow channel at all plate boundaries secures efficient removal of fouling.

XCore™

Advanced design for higher pressures

A high-pressure, cleanable plate pattern that increases mechanical strength to improve thermal performance.

+Seal

Performance and safety, up to 60 bars

The first fully confined graphite gasket in a bloc-type heat exchanger.

Learn more about the market-leading heat exchanger

Spiral heat exchangers

The ultimate problem solvers

Compared to other heat exchangers commonly used in similar applications, Alfa Laval spiral designs offer a compact footprint and increased thermal efficiency. Built with unique features that prevent fouling, they can handle the toughest heat transfer challenges while ensuring the most reliable performance. The perfect solution for liquid-to-liquid and two-phase duties, they work consistently, with extremely low installation and maintenance costs.

SelfClean™

Superior cleaning and extended performance

A single channel for each fluid ensures reliable self-cleaning.

RollWeld™

Automated, reliable channel enclosure

An automated bending-and-welding process that ensures consistent quality and reliability.

HighP™

A custom solution for high-pressure duties

Circular shell design and a self-supporting internal coil improves strength.

ALOnsite™

Qualified support at your facility

24/7 remote technical support. Onsite assistance within 48 hours.

Learn more about spiral heat exchangers

Packinox

A robust design, for exceptional heat recovery and savings

Alfa Laval Packinox heat exchangers offer outstanding thermal and hydraulic efficiency, high capacity, and minimal pressure drop, making them ideal for demanding heat recovery duties in processes with large flows, long temperature programmes, and high temperatures and pressures. Each Packinox unit is engineered to order and optimized for the exact conditions in which it will operate. Packinox heat exchangers are sustainable solutions, because they increase profitability and reduce your carbon footprint.

Packinox heat exchangers are available as:

- **Plate-and-frame**, with a core of fully-welded heat transfer plates.
- **Plate-and-shell**, featuring our patented spray bar, for high temperature and pressure applications.
- **Packinox+**, with FlexFlow, for highly asymmetric flows.

FlexFlow

Superior thermal performance

Patented asymmetrical plate design for improved thermal efficiency.

HyperCut

Unique plate design

For increased reliability and reduced pressure drop.

Explosion Forming

Customized, high-strength plates

For exceptional reliability and longevity.

ALOnsite™

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24/7 remote technical support. Onsite assistance within 48 hours.

ALOnline

Digital services

Including PackinoxPerforma, for maximum uptime and performance.

Spray Bar

Optimized gas and liquid mixing

For improved heat transfer in plate and shell models.

Learn more about Packinox

Printed circuit heat exchangers (PCHEs)

Highly efficient, with a tiny footprint

Diffusion-welded, printed-circuit heat exchangers combine superior robustness and integrity with an exceptional heat transfer rate. 85% smaller and lighter than traditional shell-and-tube heat exchangers, PCHEs offer safe, reliable performance with low installation and maintenance costs. They improve the sustainability of critical processes and minimize environmental impact.

Alfa Laval HyBloc™

Alfa Laval HyBloc™ is a new range of ultra-compact PCHEs specially designed as precoolers for hydrogen refuelling stations.

Learn more about PCHEs

OptiBond™

State-of-the-art diffusion welding

Robust, durable, and reliable for high-pressure needs.

3DPlate™

Prevents clogging under freezing conditions

Maintains high efficiency and maximum uptime when using water-based fluids like cryogenic applications.

ReFuel+

Higher back-to-back throughput

For reduced wait times and increased profits.

PowerDense

Maximum sustainability for maximum pressure

Contains 1,250 bar of hydrogen pressure in the smallest metal footprint.

Learn more about revolutionary approach to hydrogen refuelling

Olmi shell-and-tube heat exchangers

The Alfa Laval Olmi range of customized heat exchangers is designed and built for the toughest high-temperature, high-pressure applications in chemical processing industries, oil & gas production and power stations. Combining unmatched reliability with low maintenance and energy consumption, these units maximize plant sustainability through low service requirements and exceptional reliability, resulting in competitive total cost of ownership and trouble-free operation. And with our extensive offer of services, we can help you optimize operation throughout the entire product lifetime.

OptiForm

Ensuring reliable operation

Unique OptiForm tube sheets make Olmi heat exchangers highly resistant to corrosion and weld overheating.

ProShield

Secure uptime

The ProShield inlet on our double-pipe quench exchanger resists cracks in the Y inlet and the growth of coke.

Learn more about Olmi

Wet surface air coolers (WSAC®)

Sustainable performance

Tailored for specific inlet and outlet temperatures, durable, closed-loop WSAC evaporative systems work efficiently even in worst-case ambient conditions and water quality.

Hybrid air coolers (HYAC)

Water and energy saving

HYAC combines air- and closed-loop evaporative cooling. Operators can switch modes to match the natural temperature cycles of the ambient air and take advantage of natural cooling.

Learn more about maximum-cooling, closed-loop systems

WetSurface

Maximum cooling efficiency

For the lowest possible outlet temperature.

HybridCool

Combined wet and dry bulb cooling for minimized water consumption.

FlexWater

A WSAC can operate

On recycled or low-quality water.

Learn more about
HYAC hybrid air coolers

Air coolers

ACE air coolers

Alfa Laval finned tube air heat exchangers provide robust cooling in installations where water is unavailable or expensive. ACE air-cooled heat exchangers feature HyperFin slitted tube fins, which improve the air flow closest to the fin surface, increasing the heat transfer efficiency, and making it possible for the unit to be smaller than a traditional air heat exchanger. The HyperFin design increases the turbulence of the air flow, while minimizing the impact of the air side pressure drop, significantly improving heat transfer and reducing the fan's power consumption.

OLMI air coolers

Tough conditions, complex installations and critical applications call for customized solutions. Alfa Laval OLMI provides optimally designed and engineered AHEs for maximized uptime, better cost-efficiency and peace of mind. OLMI meets the most demanding standards, and can handle higher pressure and temperature than ACE.

HyperFin

Slitted fin design maximizes heat transfer.

SealTight

Effectively prevents leaks from the plugs in the header box.

ALOnsite™

Qualified support at your facility

24/7 remote technical support. Onsite assistance within 48 hours.

Learn more about air coolers

Service that keeps you growing

We are here to make sure you get the most out of your Alfa Laval heat exchanger throughout its lengthy operating life. Our service offer is designed to ensure that your units are always working optimally, with the highest, most efficient output, and the lowest possible risk of unplanned shutdowns.

Our team is here to recommend preventative maintenance to keep your equipment in top running condition. We are always available to discuss and provide solutions to any questions or concerns you may have.

We offer both online and on-site service. Each of our heat exchangers has its own unique service offer, which can be found on its product page.

Don't hesitate to get in touch with us!

ALOnline™

Digital services for maximum performance

Including process optimization, condition monitoring, predictive maintenance, and remote support.

ALOnsite™

Qualified support at your facility

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Case story

Refine and reduce: How higher energy efficiency ultimately leads to lower costs

The equivalent of eliminating 30,000 cars

Swedish refinery Preem replaced four shell-and-tube heat exchangers with a single Compabloc from Alfa Laval. The Compabloc recovered 22.6 MW of energy, 45% more than the previous installation. In addition to reducing energy use, the new heat exchanger also significantly lowered CO_2, sulphur, and nitrogen oxide emissions.

In purely economic terms, the energy efficiency improvements resulting from the Compabloc installation are worth more than USD 2.2 million per year. Based on these benefits, Preem has increased its investment in this technology and is installing welded plate heat exchangers extensively throughout the refinery.

Facts:

Energy savings/year 22.6 MW

CO_2 emission savings/year 14,600 tonnes

Read the full story here

Case story

Packinox raises the odds for cost-effective clean coal

Accelerating cost-effective carbon capture

Carbon capture utilization and storage (CCU/S) is a vital component in global efforts to combat climate change. Alfa Laval heat exchanger technology has played a central role in more than half of the world's CCU/S plants.

In many industries, captured carbon can be re-used to boost productivity and profitability. For example, in enhanced oil recovery (EOR), captured CO_2 is injected into oil wells, increasing pressure and boosting yield. Alfa Laval's unique Packinox plate-and-frame heat exchangers are enabling the development of sites that facilitate carbon capture at large economies of scale.

Benefits:

– Exceptional heat recovery
– Ideal for carbon capture and storage applications

Read the full story here

Case story

Alfa Laval HYAC provides efficient and reliable cooling in US municipal wastewater plant

A wastewater plant that doesn't waste water – or energy

When planning an upgrade of a 4-decade-old pumping system in one of the biggest municipal water treatment plants in the US, the plant's engineers had a long list of requirements. Capacity, equipment dimensions, reliability, and compliance with plant standards all played a vital role in their decision making process – and only Alfa Laval was able to fulfil all of their demands.

The plant's original two Alfa Laval wet surface air coolers (WSAC), which had operated reliably for 40 years, were ultimately replaced with an Alfa Laval HYAC system, which reduced the plant's environmental footprint, energy usage and water consumption – vitally important factors for their selection.

Benefits:

– Higher thermal performance
– Maximum operating reliability

Read the full story here

Case story

Compabloc boosts capacity and cuts CO_2

The high-efficiency alternative to a shell-and-tube

When a global chemical company needed to replace a faulty shell-and-tube reboiler on one of the solvent recovery columns at a European plant, they knew whom to call.

After consulting Alfa Laval, the company's process engineers confirmed that a Compabloc compact plate heat exchanger would be a robust, high-efficiency alternative to a custom-made shell-and-tube, capable of delivering exceptional performance even in this critical application.

The choice of a Compabloc also eliminated the lengthy delivery time required for a tailored shell-and-tube solution. Once installed and operating, it was confirmed that Compabloc had provided a substantial capacity increase. It worked so well, in fact, that a second Compabloc was installed to heat the process feed to the column. It is calculated to provide annual energy savings of 22,400 GJ and a CO_2 reduction of 1,250 tonnes.

Facts:

Energy savings/year 22,400 GJ
CO_2 emission savings/year 1,250 tonnes

Read the full story here

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