



Alfa Laval HyBloc™

The hero of hydrogen precooling



Hydro



A head start in hydrogen

As the demand for hydrogen-powered vehicles grows, so does the need for high-capacity, high-speed, zero-wait-time fuelling stations.

Alfa Laval HyBloc heat exchangers are designed to deliver. They offer unparalleled efficiency in hydrogen precooling, ensuring that all types of hydrogen vehicles – from passenger cars, to trucks, buses, and other heavy-duty vehicles – can be filled quickly.

The exceptional performance of Alfa Laval HyBloc is made possible by:

- High operating pressure, which shortens the filling time
- High pre-cooler capacity, which reduces the wait-time between fillings



Performance under pressure

Durable, fusion-bonded plates make Alfa Laval HyBloc units extremely robust, able to withstand pressures of up to 1,250 bar (18,125 psi), and operating temperatures as low as -70°C (-94°F).

This design makes Alfa Laval HyBloc an ideal component for current H70 systems that operate at 700 bar. It also guarantees their status as a future-proof solution that's ready for tomorrow's applications – which are anticipated to have even higher pressures and tougher standards.

Continuous cooling

Unlike plate-and-shell heat exchangers, which require time to recharge between fuelling sessions, Alfa Laval HyBloc's combination of a compact, thermally responsive design and a continuously operating cooling loop enables back-to-back filling, with no waiting time.

The smallest design – the biggest advantage

Because Alfa Laval HyBloc precoolers are approximately 85% smaller than plate-and-shell heat exchangers with comparable cooling capacity, they are easy to integrate into dispenser casings. Their compact design eliminates the need for costly, time-consuming underground installation, making them ideal for use in urban areas or other limited-space environments.

Improve sustainability

Diffusion welded printed circuit heat exchangers combine high thermal efficiency with compact size, minimal weight, and reduced structural-support costs. With simplified maintenance, they also maximize uptime. As a result, they help you improve the sustainability of your critical processes, while minimizing the environmental impact of the heat exchanger itself.

Robust. Reliable. Recognized.

Alfa Laval's printed circuit heat exchangers offer more than 15 years of tried-and-trusted performance in the toughest gas applications, including in the most demanding positions in the most demanding industries. Unlike plate-and-shell heat exchangers, they carry no risk of pressure pulsations or fluid-induced vibrations that may cause fatigue failures.



A fully customized solution

The Alfa Laval HyBloc range is made up of four different standard models that cater to all capacity needs. If you need a customised heat exchanger, these can be engineered-to-order and optimized for your specifications, including cooling fluid and capacity requirements, to ensure maximum performance.

There is no substitute for experience

Our application experts can support you throughout the development phase, advising you how to optimize your precooling process to get the best out of your system. As one of the world's largest heat exchanger manufacturers, you can also rest assured that we have the capacity to meet your supply demands as your sales increase.

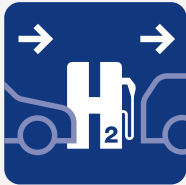
Worldwide support

As a truly global supplier, Alfa Laval can provide expertise wherever and whenever you need it. Our local technicians can support you during installation and commissioning, as well as with any service needs you may have during your equipment's long operational life.



PowerDense
Maximum sustainability under maximum pressure

Improves sustainability with the smallest metal footprint design that can still contain hydrogen pressures as high as 1,250 bar.



ReFuel+
Higher back-to-back throughput for increased profitability

Low thermal mass in a highly responsive and compact solution enables greater capacity and reduced wait time between customers, extending the number of daily back-to-back refuels.



OptiBond™
A robust and compact solution for high-pressure needs

State-of-the-art diffusion welding technology provides the highest durability and thermal efficiency within an ultra-compact welded plate heat exchanger.





This is Alfa Laval

Alfa Laval is active in the areas of Energy, Marine, and Food & Water, offering its expertise, products, and service to a wide range of industries in some 100 countries. The company is committed to optimizing processes, creating responsible growth, and driving progress – always going the extra mile to support customers in achieving their business goals and sustainability targets.

Alfa Laval's innovative technologies are dedicated to purifying, refining, and reusing materials, promoting more responsible use of natural resources. They contribute to improved energy efficiency and heat recovery, better water treatment, and reduced emissions. Thereby, Alfa Laval is not only accelerating success for its customers, but also for people and the planet. Making the world better, every day. It's all about *Advancing better™*.

How to contact Alfa Laval

Contact details for all countries are continually updated on our web site. Please visit www.alfalaval.com to access the information.