

# Meet the Alfa Laval HyBloc™ heat exchanger – the new hero of hydrogen precooling

The demand for hydrogen-powered vehicles is growing, and so is the need for high-capacity, high-speed, zero-wait-time fuelling stations. That's why Alfa Laval developed the HyBloc™ heat exchanger, which was specially designed for compact hydrogen precooling in filling stations. Today, our broad range of robust HyBloc™ precoolers has been carefully refined and we are launching a brand-new selection that offers unparalleled efficiency across the transportation sector.



## A head-start in hydrogen

*"One of the biggest challenges to reaching net zero carbon emissions is getting new products released and integrated into our existing infrastructures on time," says Pol Dunoyer, Head of Marketing & Product Management at Alfa Laval. "It's not enough to develop the relevant technologies. We also need to make them easy to use, so that the market will implement them on a meaningful scale. Take hydrogen vehicles as an example, they represent a fairly new technology that offers a solution to fossil fuel where electrification is not so accessible. So, here at Alfa Laval, we have been focusing on a newly refined range of HyBloc™ printed circuit heat exchangers that can help hydrogen vehicles become more mainstream."*

## Exceptional performance, today and tomorrow

The exceptional performance associated with HyBloc™ comes from several key design features. The first is its ability to tolerate the highest operating pressures, shortening the time it takes to fill a vehicle's tank. Second, is the high-capacity allowance of the precooler, which reduces the wait-time between fillings. These, alongside durable, diffusion-welded plates that make the HyBloc™ capable of withstand pressures of up to 1,250 bar (18,125 psi) and operating temperatures as low as -70°C (-94°F), make HyBloc™ the most reliable option on the market. In fact, this unique design doesn't just make the HyBloc™ an ideal component for current H70 systems that operate at 700 bar. It also comes with unprecedented mechanical resistance that withstands very high pressure and cyclic processes, making it a guaranteed futureproof solution that's ready for tomorrow's applications.

## Continuous cooling with a tiny footprint

Thanks to its continuous cooling loop, an Alfa Laval HyBloc™ heat exchanger makes it possible for back-to-back, zero wait time refuelling. And, because HyBloc™ precoolers are approximately 85% smaller than shell-and-tube heat exchangers with a comparable cooling capacity, they are easy to integrate into dispenser casings. This then eliminates the need for costly, time-consuming underground installation, making them ideal for use in urban areas or other limited-space environments.

## A fully customizable solution

Alfa Laval's newly refined HyBloc™ range has been carefully refined to include all our most popular standard models, catering to all capacity needs. We have just selected the best of the best to make choosing the right model simpler than ever. But, if you need a customized heat exchanger, that is possible too. Alfa Laval HyBloc™ heat exchangers can be engineered-to-order and optimized to fit your specifications, including cooling fluid and capacity requirements, to maximize performance.

## There is no substitute for experience

*"Choosing a HyBloc™ unit is only the beginning," says Pol. "Our application experts are ready and waiting to support you throughout the development phase. We can advise you on how to optimize your precooling process and get the best out of your system. And, 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 global supplier, Alfa Laval can provide quality expertise wherever and whenever you need it. Our local technicians can support you with everything from installation and commissioning to any services you might need during your equipment's lengthy operational life.

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**To learn more about Alfa Laval HyBloc™ heat exchangers, please visit:**

[www.alfalaval.com/pche/hrs](http://www.alfalaval.com/pche/hrs)

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**For further information, please contact:**

**Pol Dunoyer**

Head of Marketing & Product Management  
Vice President - Business Unit Welded Heat Exchangers  
Mobile: +33621017488

**Anne Baymont**

Manager of High Efficiency Product Management  
Business Unit Welded Heat Exchangers  
Mobile: +33771357925

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