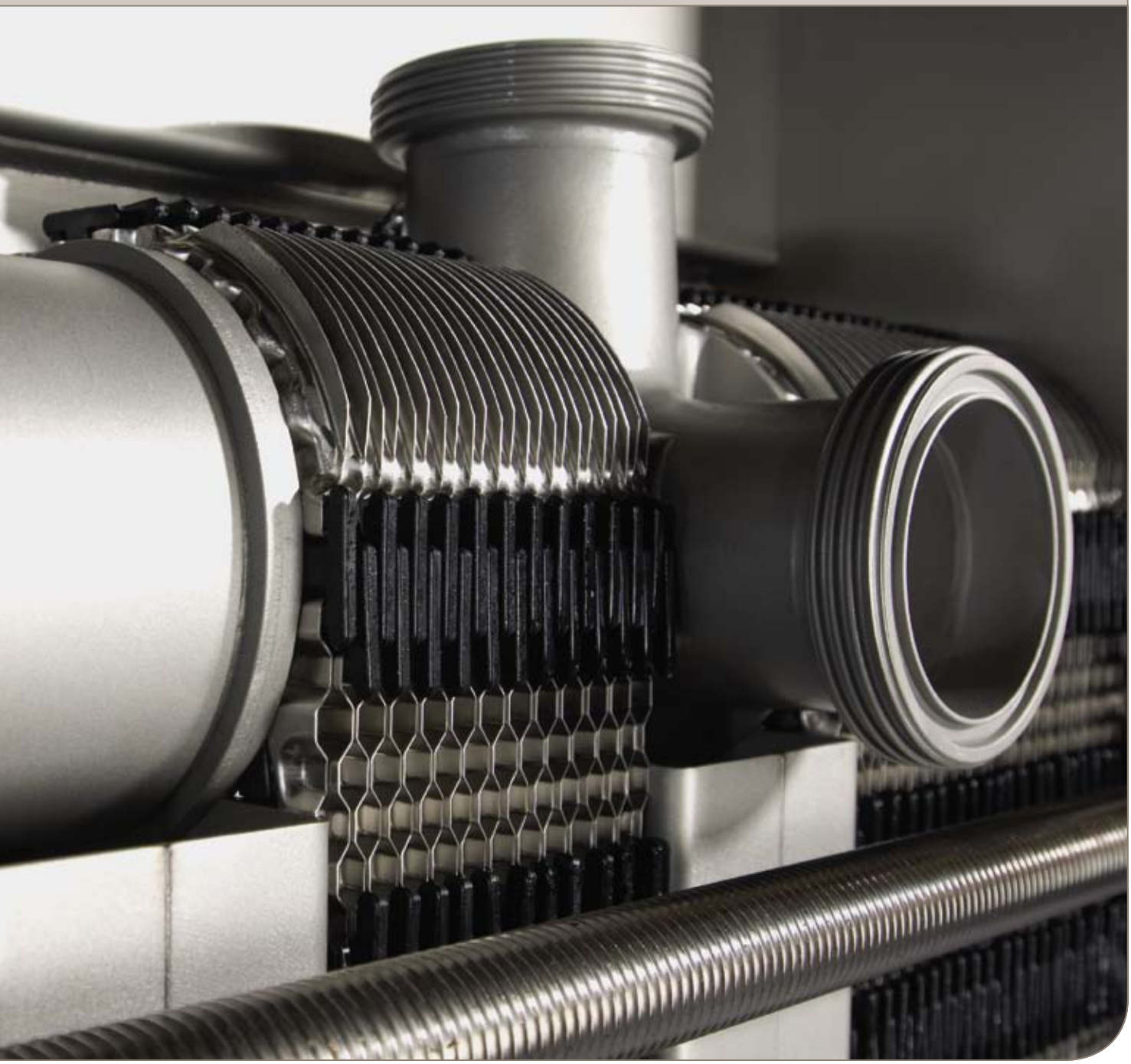
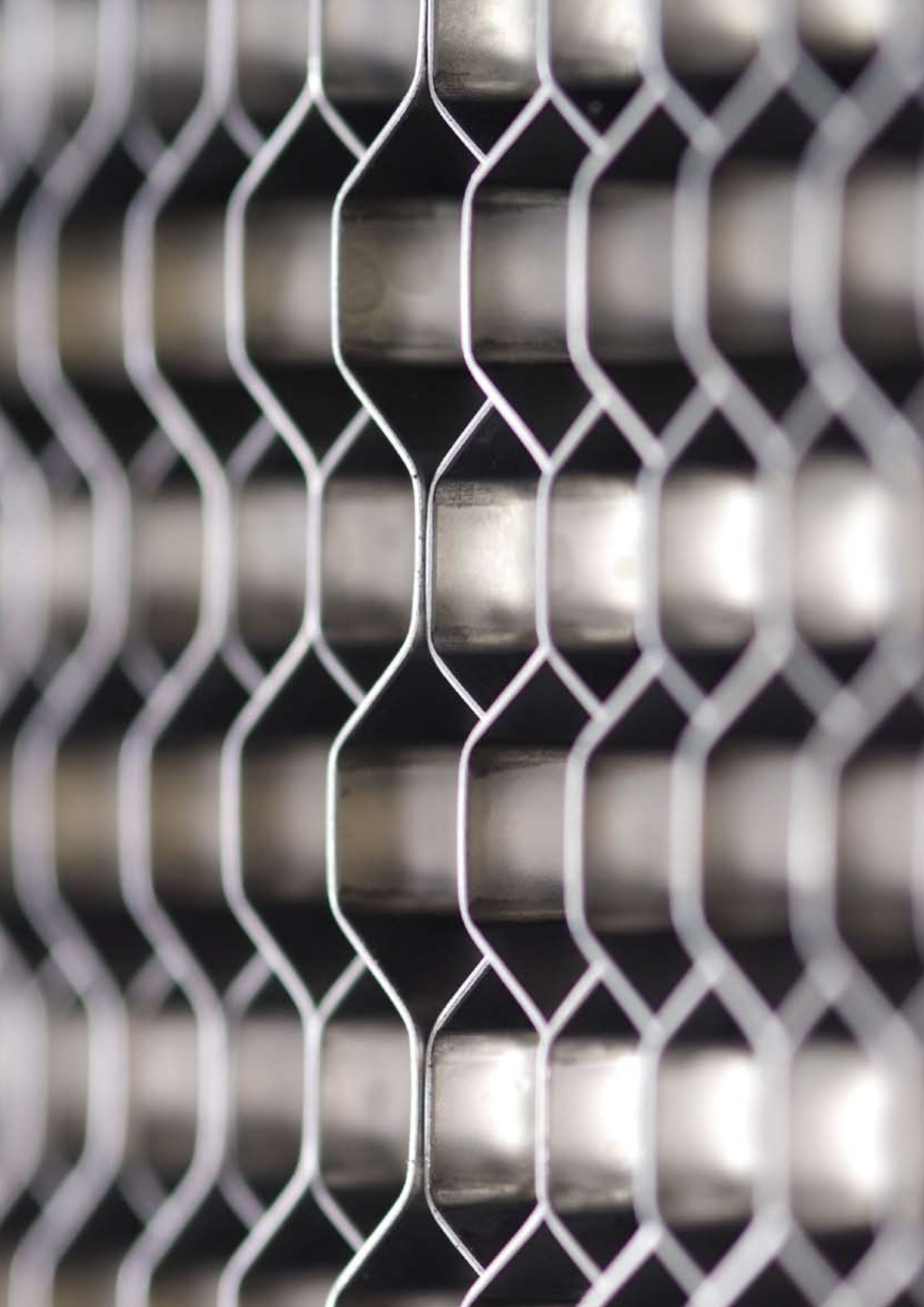
Heat exchangers for hygienic use

The complete line





Everything you need, everywhere you need it

Alfa Laval provides the widest range of hygienic products and accessories in the world. Designed for superior safety, efficiency and cleanliness, they ensure careful product handling in the food, dairy, beverage, biotech, pharmaceutical and personal care industries.

Our heat exchangers, valves, automation, pumps, tank equipment and installation material offer solutions for all process stages – and almost certainly the solution you need.

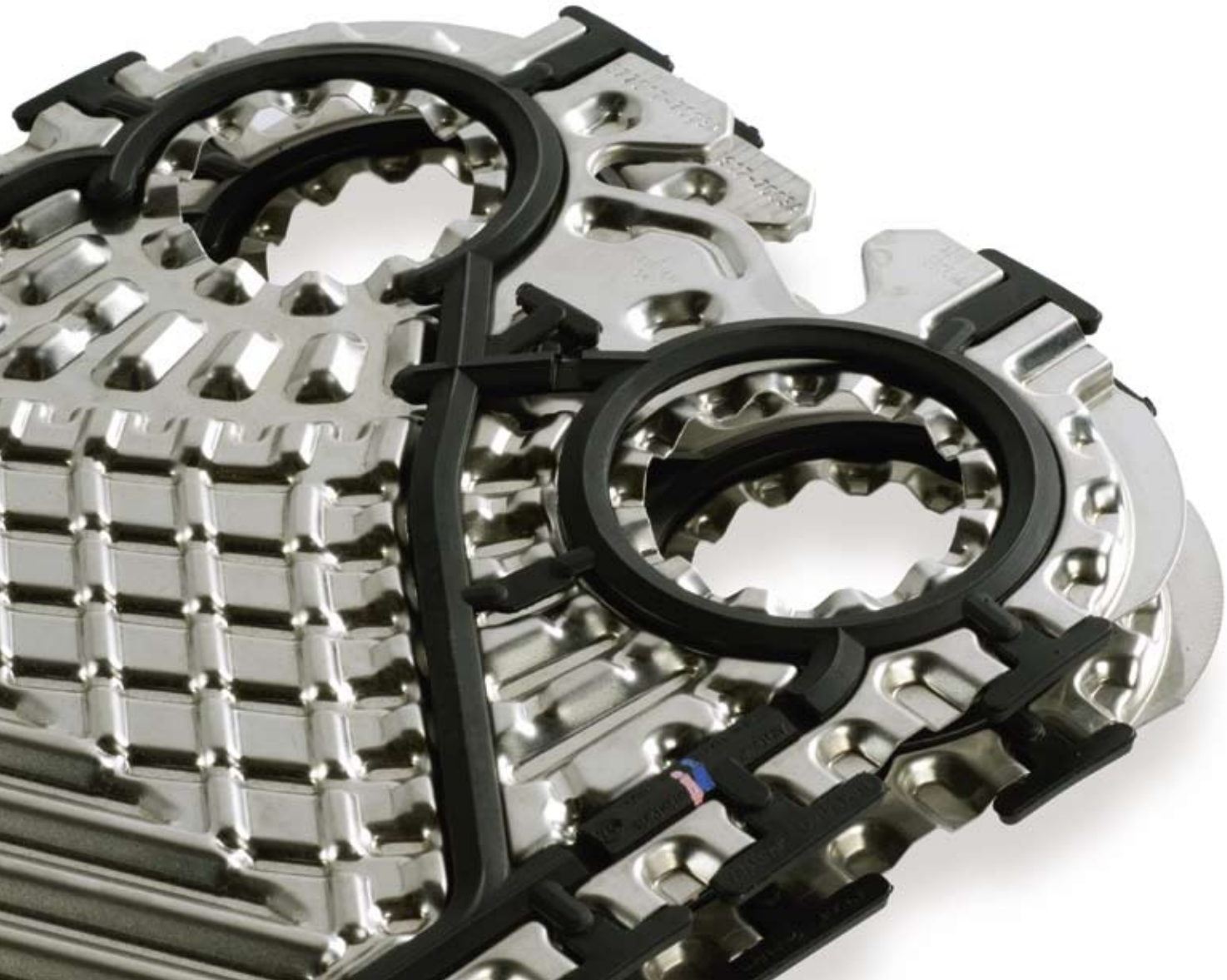
This brochure introduces our quality heat exchangers for hygienic applications. For complete technical details and product specification, please contact your local Alfa Laval supplier or visit us at **www.alfalaval.com**

Gasketed plate heat exchangers

Suitable for a wide range of applications in most industries, gasketed plate heat exchangers are a compact and efficient heat transfer solution. Alfa Laval's gasketed models are designed for exceptional control, which makes them ideal for heating and cooling duties in demanding hygienic processes.

Among the Alfa Laval advantages are our unique Clip Plates *(see page 7)*, whose glue-less clip-on gaskets can be replaced with the plates still on the frame. Their innovative design makes full use of our industrial experience, plus the latest developments in material, construction and production methods.

Holding the plates together are sturdy, pressure-graded frames with hygienic and labour-saving features. These offer great flexibility for expansion or rebuilding, as well as small ports that enable Cleaning In Place (CIP) without specialized pumps.



FrontLine

FrontLine is a top-of-the-line series of plate heat exchangers. Able to meet the highest demands on hygienic control, it features a superior and flexible design that allows easy handling and modification.

Among the main applications for FrontLine are dairy pasteurization, yoghurt cooling, UHT treatment and work with heat-sensitive products. FrontLine frames can be supplied in stainless steel and silver-coated versions, and the Clip plates (see page 7) are available in alternative materials for challenging food-processing tasks.

Front 6, 8 and 10

Fronts 6, 8 and 10 are efficient and gentle processing solutions for pasteurization, as well as for general heating and cooling of dairy, brewery, beverage and viscous products. In most cases their Clip plates can be cleaned via Cleaning In Place (CIP), using the same flow as in the process itself.

BaseLine

With its cost-effective frame design, the BaseLine series of plate heat exchangers is a competitive choice for process and utility duties. Working at pressures up to 10 bar (g), it handles not only heating and cooling, but also pasteurization at low flow rates.

Typical BaseLine applications include simple pasteurization, raw milk cooling, media heating/cooling and CIP heating.

M-series

The M-series of plate heat exchangers is an efficient solution for general heating and cooling duties in hygienic applications. In addition, the series is a perfect alternative for heating and cooling service media.

M-series plate heat exchangers are only available with epoxy-painted frames.

TS6-M

Thanks to its unique plate geometry, TS6-M series of plate heat exchangers is thermally optimized for steam condensation duties. This makes it useful not only for heating water, but also for heating Cleaning-In-Place (CIP) solution by means of steam.

TS6-M plate heat exchangers are available with either stainless steel or epoxy-painted frames.

Clip plates

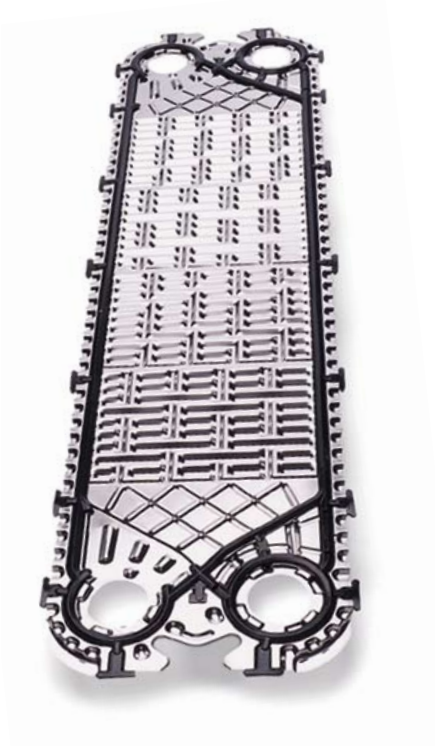
Alfa Laval's Clip plates are custom-designed for the efficient thermal treatment of liquid food and sensitive hygienic pro-ducts. Based on many years of practical experience in food applications, they offer a well-balanced answer to complex needs.

Clip plates take their name from their glueless clip-on gaskets, which can quickly and easily be removed with the plates still on the frame. Food-grade gaskets are available in materials from NBR to EPDM, enabling a perfect match for the application temperature and characteristics.

The plates themselves are available in many geometries and patterns, as well as a choice of stainless steel, SMO or titanium. Their excellent press depth and relatively few contact points prolong operating times, while a unique distribution area ensures an even flow over the whole plate surface.

Standard

Well-proven and extremely heat efficient, our Standard Clip plates meet the toughest requirements in food processing. They feature a chevron pattern for maximum strength at high working pressures, with different chevron angles available for optimal heat transfer at a given pressure drop.



WideStream

Our WideStream Clip plates have very few contact points, which helps prevent blockage and results in longer uninterrupted operating times. The plates are specially developed for the pasteurization of fruit juices and other products con-taining pulp and fibres.

Gemini

With their double walls, our Gemini Clip plates combine excellent heat transfer with increased protection against the mixing of fluids.
The plates consist of two sheets that are formed together, which prevents the media from mixing even in the event of a cracked plate.

Fusion-bonded plate heat exchangers (AlfaNova)

AlfaNova plate heat exchangers are the first in the world to be manufactured from 100% stainless steel. Thanks to AlfaFusion – Alfa Laval's revolutionary technology for bonding stainless steel components – they can withstand even extreme temperatures and pressure fatigue conditions.

Their exceptional performance suits AlfaNova plate heat exchangers to demanding duties in a broad range of industrial applications and utilities. Often employed to heat water or CIP solution by means of water and steam, they can also be used for general heating and cooling duties.

Brazed plate heat exchangers

Alfa Laval's brazed plate heat exchangers are extremely compact – a result of high heat transfer coefficients, small hold-up volumes and the use of thin materials. The stainless steel plates are brazed into a package without the use of gaskets, with copper serving as the brazing material.

Operating costs are reduced by the heat exchangers' high thermal efficiency, while the rectangular shape and front-positioned connections make for easy installation. Resistant to heat, pressure, vibration, and above all corrosion, brazed heat exchangers are perfect in utilities such as heating water with steam.

Tubular heat exchangers

The pharmaceutical industry requires exceptional certainty, not only when it comes to product hygiene, but also when it comes to isolating products and media. For this reason, Alfa Laval offers a number of specially developed, high-quality tubular heat exchangers.

Pharma-X

Designed for point-of-use cooling in the pharmaceutical industry, the Pharma-X tube-in-tube heat exchanger eliminates the risk of contamination between the product and cooling media. It consists of three discrete tubes arranged one within the other, curved through 180° to create a bend that takes up thermal expansion.

The Pharma-X heat exchanger can be used in many application areas, including point-of-use cooling on WFI (Water For Injection) ring mains, cooling/heating of pure water in the pharmaceutical industry and cooling/heating of distilled water/WFI for processing equipment.

PharmaLine

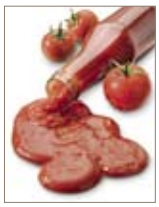
PharmaLine is a shell-and tube heat exchanger that provides full drainability and prevents the risk of cross-contamination. Its bundle of seamless, electropolished tubes handles the flow of product media, with service media running outside the tubes in a cross-flow.

Since the unit is flexible in design, size and material, it can be used in any hygienic application with high demands. Typical PharmaLine uses include point-of-use cooling on WFI (Water For Injection) ring mains, heating of WFI and product cooling and condensing.

Solutions for your application...

Alfa Laval has hygienic heat exchangers for any need, however large or small. No matter which you select, you receive a compact and reliable product that carries out its tasks effectively for years on end.

Our heat exchangers are designed for heating and cooling, pasteurization and utility duties, and are able to handle even viscous products. By combining our thermal technologies with our many years of industrial experience, we can also provide you with a wide range of tailored solutions.



Food and beverages

By facilitating gentle and careful processing, Alfa Laval heat exchangers preserve the natural flavours and delicate aromas of foods and beverages. Their total hygiene ensures product quality, while their efficient operation provides maximum cost efficiency.

Dairy

Alfa Laval heat exchangers supply the impeccable quality needed in working with dairy products. Their thorough, durable engineering ensures that raw materials are handled and pasteurized according to the highest standards of reliability and hygiene.

Brewing

With their unique plate design, compact size and low weight, Alfa Laval heat exchangers bring breweries efficient and reliable thermal treatment. A combination of hygienic heat exchangers in the brew house allows energy to be balanced and recycled effectively.

Biopharm

Alfa Laval heat exchangers meet the stringent hygienic requirements of the biotech and pharmaceutical industries. As well as offering full sterility and maximum dosing control, they safeguard against cross-contamination and the intrusion of service media.

...and service for any brand

Having Alfa Laval service your heat exchangers is more than just practical – it makes good business sense. Alfa Laval's local specialists know your industry and its needs, but are also part of a global network of service and support.

Drawing on our many years of thermal transfer experience, Alfa Laval service specialists are experts on heat exchangers, chemicals and cleaning methods. As a result, they can service not only our own heat exchangers, but also plate heat exchangers from other manufacturers.

Expertise in every detail

At Alfa Laval's service centres, we handle all aspects of heat exchanger maintenance. By restoring heat transfer and pressure drop, we ensure quality, productivity and energy efficiency. And by finding and stopping leakage, we reduce production losses and protect your equipment and the environment.

We work with specialized tools and chemicals, as well as brand-quality spares and the best glues and mounting procedures. Many of our services are available in standardized packages, so that you can choose the level that meets your needs.

AllBrands service

Through Alfa Laval's unique AllBrands service, we can restore any plate heat exchanger to optimal working condition. This gives you a single, reliable speaking partner, regardless of the models or brands that you use.

Our qualified specialists, decades of experience and extensive database of solutions make Alfa Laval the simple path to top-notch performance.

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 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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