



Sustainability through proven performance

Improve profitability with Alfa Laval Packinox combined feed/effluent heat exchangers



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Эл. почта: afm@nt-rt.ru || Сайт: <http://alfa-laval.nt-rt.ru>



Reliable efficiency

An Alfa Laval Packinox heat exchanger is the perfect choice for demanding heat recovery duties in processes with high pressures and temperatures. Combining exceptional thermal performance, high hydraulic efficiency and low CAPEX, Packinox heat exchangers help you optimize energy efficiency, increase profitability and improve sustainability.

Every Packinox heat exchanger comes with our guarantee for optimal performance. Using our Lifting Controller monitoring system, we make sure your equipment delivers as promised and that you enjoy maximum operating reliability.

For more information, please visit:
www.alfalaval.com/packinox



Unipetrol, Czech Republic

Unipetrol RPA has been operating a Packinox combined feed/effluent heat exchanger in its refinery in Litvínov, Czech Republic, since 2002. The heat exchanger recovers heat in the refinery's catalytic reforming unit and has delivered reliable performance and large energy savings for many years.

Petr Městka is Head of Technology and Research at Unipetrol. "Over the years we have been very satisfied with the performance of our Packinox heat exchanger and the support we have received from Alfa Laval," he says.

The profitable choice

Alfa Laval Packinox heat exchangers offer unmatched heat recovery and top reliability. Compared to a shell-and-tube solution, a Packinox enables higher yield and recovers more heat, resulting in better ROI and lower impact on the environment. Payback times are usually very short, often less than a year for larger units.

Optimal heat recovery

Thanks to its unique design, a Packinox combines the thermal and hydraulic efficiency of a welded plate heat exchanger with the high-temperature and high-pressure resistance of shell-and-tube heat exchangers. A single Packinox heat exchanger outperforms systems consisting of multiple large shell-and-tubes, both in terms of heat recovery and investment costs.

The standard solution for catalytic reformers and paraxylene plants

Due to its many advantages, Packinox has become the industry standard combined feed/effluent heat exchanger in catalytic reformers and paraxylene plants. The potential OPEX reduction in these applications is significant, and choosing the right heat exchanger has a great impact on energy bills.

There are currently more than 350 Packinox heat exchangers in operation in processing plants across the world.

3 ways to raise profitability

Lower OPEX

The high heat recovery in a Packinox heat exchanger results in a significant reduction of the load on the furnace and the cooling system, with major savings in energy costs as a result. Maintenance costs are also lower than for other types of heat exchangers thanks to minimal fouling.

Lower CAPEX

The high thermal efficiency means a single Packinox can replace several large shell-and-tubes, thereby ensuring low installation costs. The improved heat recovery reduces the requirements on the furnace and cooling system, allowing you to use smaller units with less capacity.

Higher processing yield

A Packinox heat exchanger helps maximize your processing yield thanks to its low pressure drop, the optimal gas flow, the operating flexibility and its fully customized design.

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Unique benefits

Explosion forming maximizes reliability

The pattern on a Packinox heat transfer plate is formed by the shockwave from an underwater explosion. This one-step operation minimizes residual stresses in the plates, making them mechanically stronger. The end result is very high operating reliability and longevity.

Wide Opening Design boosts heat recovery

Our patented Wide Opening Design plates have a special distribution area with minimal pressure drop. This gives you the highest possible heat recovery while keeping the overall pressure drop low. A low pressure drop is critical for maximum yield.

Lifting Controller increases flexibility

If the flow or composition of the liquid feed changes, it is key to adjust the flow rate of the recycle gas to ensure high operability. Our Lifting Controller software continuously monitors the lifting in your heat exchanger, making it easy for operators to set the optimum gas flow.

Spray Bar optimizes mixing

Internal mixing of the liquid feed and recycle gas is unique for Packinox heat exchangers. Our patented Spray Bar technology ensures perfect mixing, resulting in better heat transfer, less mechanical stress and more reliable operation compared to mixing in the inlet pipe.

Laser welded for higher strength

All welds subjected to high mechanical stress are laser welded for maximum strength and robustness.

Accessible for service

All welds are fully accessible for repairs, and individual channels can be plugged if necessary.



The liquid feed enters from the side, and thanks to the Spray Bars it is perfectly mixed with the recycle gas, which enters the heat exchanger at the bottom. The feed/gas mixture moves up through the plate pack while the reactor effluent travels in the opposite direction.

The highly turbulent, counter-current flow ensures that most of the heat from the reactor effluent is recovered. This reduces the load on both the reactor heater and the cooling system compared to using other types of heat exchangers, thereby reducing both OPEX and CAPEX.



Refinery on the US Gulf Coast

A large refinery on the US Gulf Coast decided to replace the plate bundle in its Packinox heat exchanger. Time was a critical factor for the customer, and thanks to the strong dedication and hard work from the project team, the time from initial offer to delivery was a record-fast seven months.

The new plate bundle was installed and commissioned by the refinery technicians under the supervision of specialists from Alfa Laval Packinox. The unit was started on time, the performance was as specified and the customer was fully satisfied with the way the project was executed.

Partners in performance

Our team of process, mechanical and thermal experts is ready to support you from the initial design stages, through the installation and commissioning process, and for the entire lifetime of your Packinox heat exchanger.

Fully customized

Every Packinox heat exchanger is tailored to the exact conditions that it will operate under. Choosing Packinox means you get a very accurate, optimized design, fine-tuned for maximum yield and heat recovery.

Our engineers cooperate closely with the world's leading licensors and have more than 35 years' experience of designing and manufacturing heat exchangers for the hydrocarbon industry. We make sure you get the best possible solution for your specific plant.

Guaranteed performance

When investing in a Packinox heat exchanger you are not just buying a heat transfer surface, you are investing in performance. Our unique performance guarantee gives you the peace of mind of knowing that your new heat exchanger will perform as specified. For more than 30 years we have built a solid reputation of always delivering on our promises.

Monitoring and continuous follow-ups

We continuously collect and analyse operating data from Packinox heat exchangers in operation, which allows us to make recommendations on how to improve performance and when to plan service, all communicated in regular condition reports.

Our experienced service specialists are available 24/7 and are ready to assist you whenever service is required. If needed they can be at your site within a couple of days.



Lifting Controller

Optimum lifting and increased flexibility



Wide Opening Design

Maximum heat recovery



Lifetime Follow-Up

Continuous monitoring and optimization



Spray Bar

Effective mixing of the liquid feed and the recycle gas



Explosion Forming

High-strength plates with long, reliable lifetime

Learn more at www.alfalaval.com/packinox.

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