



# Reconditioning

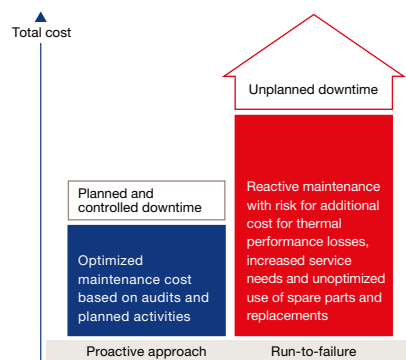
Reducing life cycle costs of gasketed plate heat exchangers



# Essential reconditioning

When performing at their optimal level, gasketed plate heat exchangers provide efficient and reliable heat transfer. For two reasons all gasketed plate heat exchangers will need reconditioning at a certain point: to avoid performance loss or to replace gaskets at their end-of-life.

LIFETIME MAINTENANCE COST  
Proactive vs. run-to-failure approach



## Performance loss

Over time all heat exchangers lose in performance due to residue build-up caused by fouling or scaling. This will push-up your operating costs and increase the risk of unscheduled production stops. In some applications, you can prolong the efficiency level by cleaning-in-place (CIP), but eventually all heat exchangers will require reconditioning to reset the heat exchanger to its initial performance level and by that keeping the operating cost at an acceptable level.

## Gaskets reaching end-of-life

The second reason for doing reconditioning is that the gaskets have reached end-of-life. Alfa Laval has developed GPredict™ – a tool that estimates the expected gasket life time based on the exact duties of the unit and its operating conditions. This estimate gives valuable input for planning reconditioning at the time gaskets need to be replaced – a key for mitigating risks of leakage and unplanned downtime.

### GPREDICT™ - GASKET LIFE TIME PREDICTION TOOL



Take advantage of the full power of GPredict™. Contact your local Alfa Laval service sales representative to get a complete, customized gasket lifetime prediction based on your specific installation.





## The Alfa Laval approach

**Application expertise** We recondition more than 700,000 plates every year in units operating in a variety of industries and applications. We understand how they are used and can advise on how to optimize or avoid future risks based on the arrival state of each unit.

**Processes** Our advanced processes build on years of practical experience and continuous development work by materials and chemistry specialists. No risk of damage and units returning as-good-as-new!

**Product knowledge** We know the product well. Having easy access to design specifications, original configurations and plate hanging lists, we quickly reset your equipment to its prime performance.

**Genuine parts** We always use genuine Alfa Laval gaskets, glue and spare parts. Gaskets may look alike, but have many different properties. Originally specified gaskets have a correct material composition and is designed to fit perfectly to the plate. A key to avoid premature leaks.

**Environment** Services centres are regularly upgraded to comply with, or exceed, environmental legislation. All chemicals are recycled and reused many times before they are sent to special destruction plants. Our sustainable process gives you clean plates, but no worries of handling chemical waste.

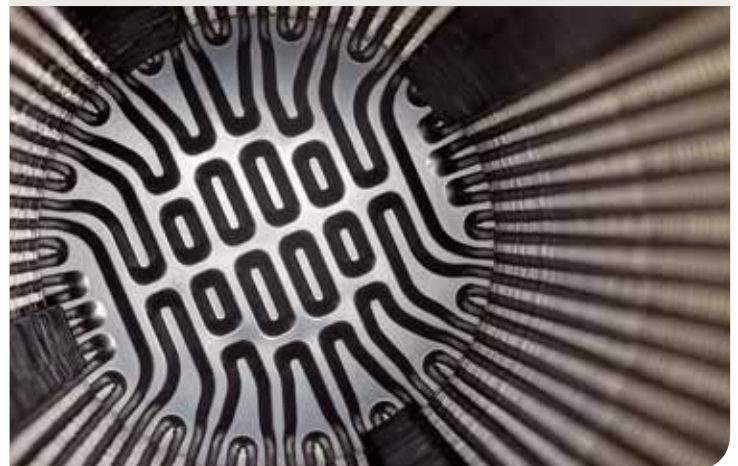
**Proximity** With over 100 service centres worldwide, we are never far away to provide quick maintenance in our modern facilities.

## Why Alfa Laval?

By performing regular reconditioning, you secure a stable operation while optimizing life cycle maintenance cost. With Alfa Laval you will restore your heat exchangers to as-good-as-new condition.

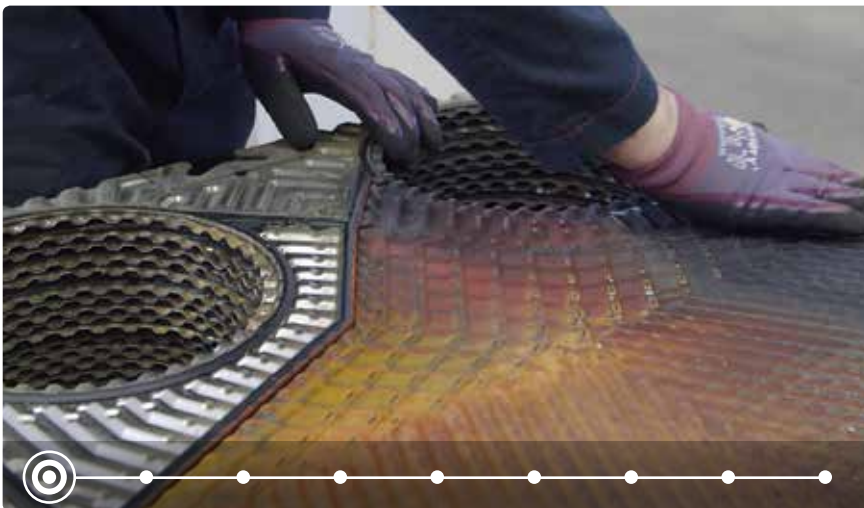
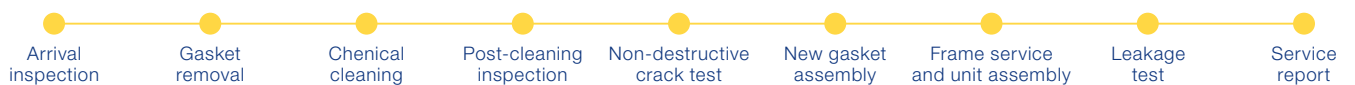
All our service centers have in-depth product knowledge and have access to a highly specialized global team of design engineers and material experts. Our service technicians have access to original technical documentation and design specifications of each unit. They work with specially developed tools and procedures, as well as genuine Alfa Laval spare parts for replacements.

Reconditioning with Alfa Laval takes your maintenance beyond maximizing your equipment's efficiency. We identify emerging problems, offer advice and recommendations on future maintenance – and we sign it all off in a thorough report to support your continued maintenance planning.



# The Alfa Laval reconditioning process

Our advanced multi-stage process will reset your gasketed plate heat exchanger to an as-good-as-new condition.

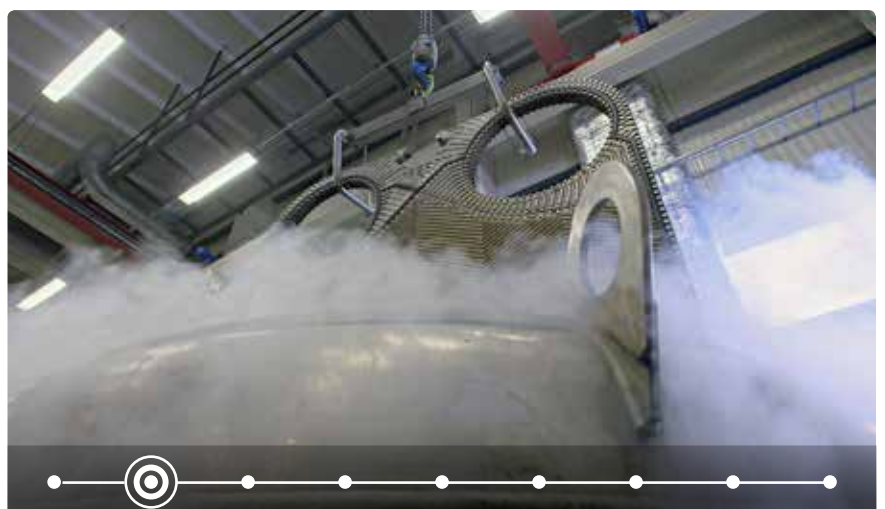


## Arrival inspection

When your unit arrive at the service centre, we always start with a manual inspection to check for significant damage and emerging problems. This helps the technicians decide the course of action and to avoid unnecessary procedures.

## Gasket removal

The next step is to remove the gaskets in a liquid nitrogen bath. This method offers a gentle and effective way of removing both gaskets and glue residues. The liquid nitrogen makes the gaskets brittle so that they can be removed safely without damaging the plate. All residues need to be removed entirely to get a completely sealed unit after re-assembly.





## Chemical cleaning

In the chemical cleaning, the plates are immersed in a caustic and acid bath. Years of experience have perfected the process down to the smallest detail of what chemicals to use in which concentration and temperature and for how long. All to ensure removal of deposits without damaging the plates.



## Post-cleaning inspection

After the plates have been cleaned, they are inspected for cracks, deformities, corrosion and erosion. The purpose is to identify any emerging problems that might affect performance in the future.

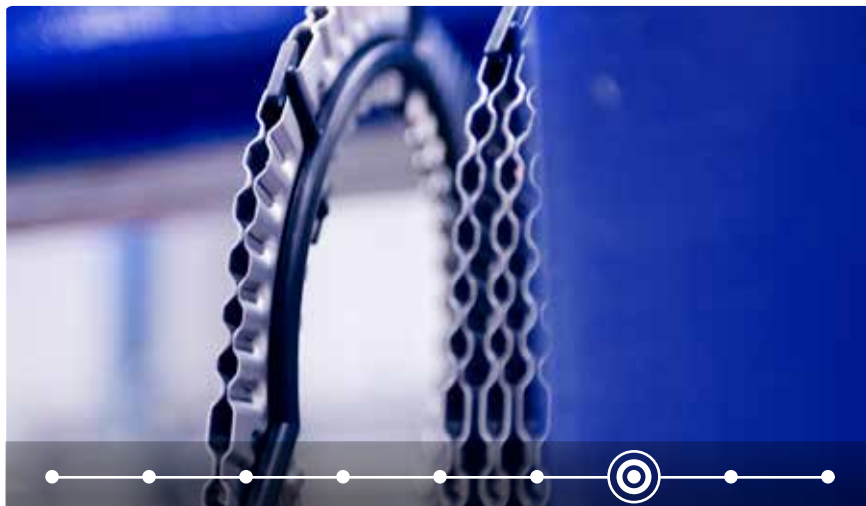


## Non-destructive crack test

Ultra-violet light and dye penetrants are used to check for surface damage, cracks and deformities not visible to the bare eye.

## New gasket assembly

After completion of cleaning and inspection stages, re-assembly begins. We only ever use genuine Alfa Laval gaskets according to the unit's design specifications. This guarantees gaskets with correct shape, composition, hardness and dimensional tolerances which is important to fit the plate grooves perfectly and ensure a perfect sealing of the plate pack. Gaskets in units that are frequently opened for mechanical cleaning, are fixed with an extremely strong, two-component glue.

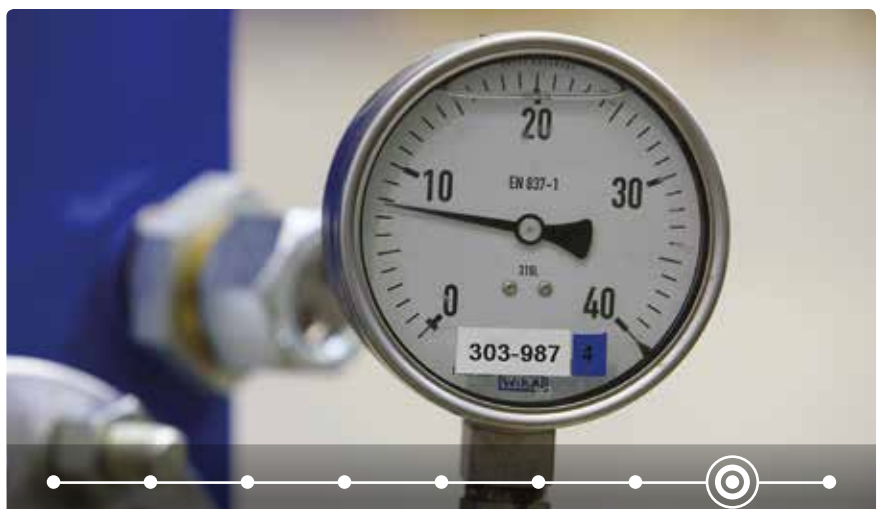


## Frame service and unit assembly

Whenever possible, we recommend that the entire unit is sent for service so that we can re-assemble plates in the right order, and make sure they are perfectly aligned and tightened to the correct A-dimension. The correct compression is crucial to avoid premature leakage caused by deformities to gaskets or plates. Servicing the frame, includes restoring the corrosion protection, replacing any worn parts and even re-painting them.

## Leakage test

After assembly, we perform a hydrostatic test to ensure that there are no internal or external leakages.





## Service report

Once your heat exchangers have been reconditioned you will receive a service report that tells you the arrival state of the equipment and what has been done to it in the process. The report highlights identified emerging problems and gives recommendations for future maintenance. This final step of the process will help you to prolong a long and safe, efficient and reliable operation of your heat exchangers.

## Next step

We recommend that you discuss reconditioning with an Alfa Laval sales representative, so that we can tailor the scope of reconditioning exactly to your application and equipment needs. Our local experts will provide you with proper advice on how to proceed including a quick price proposal for your evaluation.



## Your service partner

By choosing Alfa Laval you are choosing a knowledgeable service partner to guide and give you maintenance advice throughout your equipment's lifetime. From start-up, maintenance and support, to improvements and monitoring services – we have all the parts and services to ensure your equipment performs to the level it was designed for.

Please visit [www.alfalaval.com](http://www.alfalaval.com)  
to see which service center are close to you

## 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 to 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](http://www.alfalaval.com)

