



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.

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Set your sights on optimisation

AlfaCheck monitoring services for heat exchangers



Carlsson Communication 2002

What AlfaCheck can do

AlfaCheck delivers concrete results that measure up in performance and profitability:

- Condition-based maintenance means that you clean your heat exchanger at the right time – not before it's required or after fouling has slowed down productivity.
- More uptime, less downtime, thanks to nonstop performance monitoring. No unnecessary production stops to decrease your revenue-earning potential.
- Verification after cleaning confirms that your heat exchanger is operating at peak performance.
- Real savings can be calculated based on potential energy losses and local energy costs.



So set your sights on optimal performance with AlfaCheck. We'll make sure that cleaning in place takes place when the time is right, and you can watch performance and profits rise.



Condition-based cleaning cuts energy costs

Plate heat exchanger performance has a direct bearing on your profitability. But, sight unseen, fouling can decrease your unit's performance. How do you avoid unplanned production stops caused by fouling without opening your unit?

Many of us rely on time-based servicing to maintain optimal performance. But this can be costly. Consider your energy savings if you could base service intervals on the heat exchanger's actual condition rather than on an arbitrary interval of time.

If the cleaning interval is too long. Depending on the application, a typical plate heat exchanger operating at less than full efficiency, due to fouling, would use more energy to reach the same outgoing temperatures than it would when operating at full efficiency. In this scenario, cleaning before the recommended operating-hour maintenance interval would save you a lot of money.

If the cleaning interval is too short. You may be spending too much on routine service. What if a heat exchanger that is serviced every three months, for instance, does not require service until the fourth, or even fifth, month? You can save even more money by extending the interval between planned service times.

Clean at the right time

AlfaCheck from Alfa Laval is a new condition-based performance monitoring service for plate heat exchangers used in liquid-to-liquid applications. This service uses the actual operating condition of your heat exchanger to determine if, and when, cleaning is required to restore optimal performance. Monitoring takes place during operation to ensure ongoing productivity and usually requires less than an hour per unit.

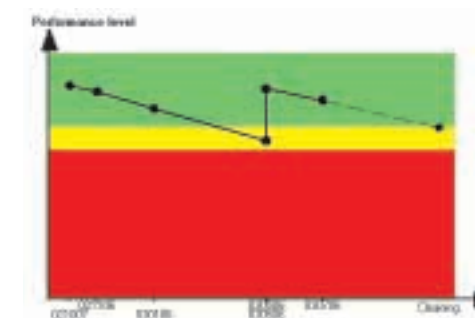
How AlfaCheck works

AlfaCheck consists of temperature and flow gauges along with a portable computer loaded with a complex thermal analysis program that includes performance benchmarks for every Alfa Laval plate heat exchanger. An Alfa Laval engineer mounts the gauges outside the pipes near the hot- and cold-side inlets and outlets, connects the gauges to the portable computer, and then measures and records temperature differentials and flow rate. If temperature differentials and at least one flow rate are available, our engineer can manually input these values into the AlfaCheck program.

Using these measurements, the AlfaCheck software program derives the heat exchanger's optimal heat load using the same complex algorithms that comprise Alfa Laval's core competence in thermal processing. AlfaCheck then

compares the optimal heat load to the actual heat load to determine the heat exchanger's performance level. The status of current operations is shown on the display using easy-to-understand colour-coded symbols:

- **A green light** demonstrates high performance.
- **A yellow light** indicates medium performance and notifies you to plan cleaning.
- **A red light** signifies low performance and alerts you to schedule cleaning as soon as possible.



AlfaCheck can provide you with graphs showing the progression over time of performance level, temperature difference, potential energy losses and local energy costs. You choose which graphs to include in your final AlfaCheck report. This information helps you determine the best time to clean, based on what you deem acceptable in terms of energy losses.

Watch performance rise

The operating efficiency of your plate heat exchanger can make a huge difference to your profit margin. Running your machine clean means it operates at peak performance and uses less energy. That means more uptime and reduced operation and maintenance costs. All this translates into more revenues.

Three AlfaCheck packages



Performance Agreement

By signing an Alfa Laval Performance Agreement, you ensure more uptime with fewer unplanned production stops and a longer lifecycle for Alfa Laval equipment. The Alfa Laval Performance Agreement offers from one- to four-star service – where one star provides basic professional service and four stars provides premium partnership. One-star service includes an optional cleaning-in-place package where AlfaCheck verifies optimal heat exchanger performance. Two-, three- and four-star service provide an AlfaCheck condition-based heat exchanger maintenance program that includes cleaning in place and reconditioning. Reports, generated during each AlfaCheck visit, help guide your decisions about when to clean and when to recondition.



Cleaning-in-place package

We measure performance, clean and measure again to verify peak performance. Our service engineers can train your personnel to clean your plate heat exchanger in place using Alfa Laval cleaning equipment and Alfa Laval cleaning agents. Or if you prefer, we can do it for you.



Reconditioning package

If cleaning in place is not an alternative, Alfa Laval recommends a more thorough cleaning process to restore your plate heat exchanger to as-good-as-new condition. This may require plate inspection, gasket removal and replacement with genuine spares, plate cleaning by immersion in specially formulated chemical baths, crack detection tests, gluing with Alfa Laval epoxy adhesives, oven-curing, pressure testing and verification.