Case story
Europe

From testing to proof: turning trials into large-scale pump investment

A leading European sauce manufacturer set out to upgrade a series of progressive cavity pumps to new and more efficient and easy-to-clean positive displacement pumps. Before investing, the company participated in extensive trials of several pump types at the Alfa Laval Application & Innovation Center.

In the test, the Alfa Laval DuraCirc pump delivered the strongest performance, combining high pressure capability with gentle product treatment – ideal for the company's processes. Following the trials, the company decided to upgrade the entire pump fleet with more than 40 DuraCirc pumps.



Rethinking pump technology for sauce production

In a drive to upgrade its pump fleet without compromising performance, a leading European sauce producer set out to evaluate alternative pumping technologies before deciding on its next-generation solution.

The challenge was clear: replace existing pumps, while maintaining performance, improving cleanability and hygiene and at the same time ensuring gentle handling of demanding sauce formulations characterized by high viscosity and delicate textures.

To ensure the right choice, the customer, in close collaboration with its system builder, decided to conduct a series of validation trials at Alfa Laval's Application & Innovation Center.

Putting pump performance to the test

The trials were conducted over two days, where real recipes – prepared from the customer's own ingredients – were processed under conditions closely mirroring the company's real-life production setup.

Two pumping applications were tested. The first involved transfer of premix from mixing tank to buffer tank, while the second focused on controlled dosing from buffer tank to filling line. The main evaluation criteria included the ability of the pumps to handle products with widely varying viscosity, ranging from water-like liquids to thick mixes, as well as gentle transfer of premixes containing particles such as small onion pieces. Stable and consistent flow to the filling line was also a critical requirement.

"It was a demanding test, spanning both high-volume sauce base production and smaller batches for final preparation and filling. The results gave the customer and their system builder full confidence that DuraCirc pump can handle the task, combining robust performance, gentle product treatment with outstanding cleanability between batches", said Frederic Liot, Industry Manager at Alfa Laval.



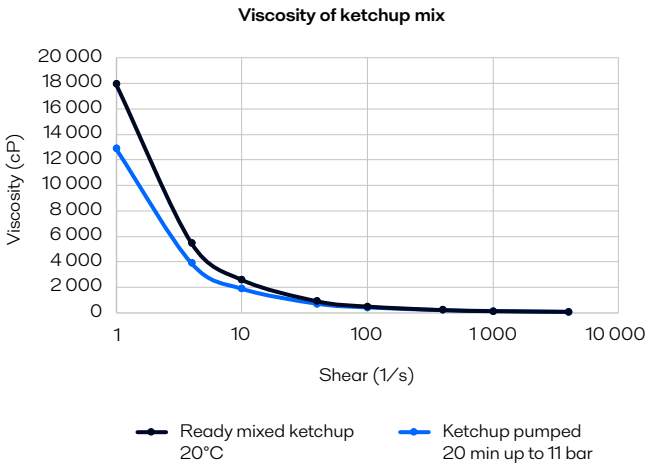
Alfa Laval DuraCirc.

From successful trials to 40+ pump replacements

By comparing two positive displacement pump technologies, the trials clearly demonstrated that DuraCirc pumps deliver robust pressure performance, while preserving product integrity and enabling easy, efficient cleaning across both high-volume pumping applications and smaller batch production.

With these results, the customer initiated a phased upgrade programme, including replacement of more than 40 pumps across its sauce production lines. Installation of the new pumps proved straightforward, with each unit fitted in less than two hours.

"It is always rewarding to see customers overcome complex challenges and when trials turn into full-scale implementation. Strong collaboration, open dialogue, deep application expertise and technology leadership were key to building a sound business case for an upgrade that will future-proof the customers production", said Jens-Aage Larsen, Application Center Manager.



The trials showed that pumping with the DuraCirc pump at high pressure preserved product consistency and flow behaviour, critical for maintaining uniform texture and stable processing.

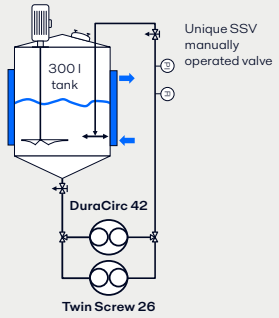
DuraCirc pump facts and benefits

- Specifically designed for Cleaning-in-Place, the Alfa Laval DuraCirc pump is ideal for hygienic applications.
- Certified by EHEDG as fully CIP cleanable according to the protocol.
- Conforms to the US 3A standard, and all media contacting components are FDA compliant.
- Available in 13 different sizes for flow rates up to 149 m^3/hour (650 US gal/min) and pressures up to 40 bar (580 PSIG), 15% higher than other positive displacement pumps.
- The front-loading single mechanical seal can be inspected and replaced quickly without disassembling any process pipework, significantly reducing maintenance time.

Facts about the trial setup

Trial setup for testing of Alfa Laval DuraCirc and Twin Screw pumps in preparation of sauce bases:

- 300 l tank with EnSaFoil agitator
- Circulation loop diam 2" × 2.5 m
- Transfer pump DuraCirc 42 or Twin Screw 26
- Flow meter and manometer
- Unique SSV manually operated valve



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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