



Alfa Laval helps Jagatjit clean up – and save – with optimized evaporator configuration

Jagatjit Industries Ltd., Hamira Punjab, India

Case story

When Jagatjit Industries, a leading supplier of Indian Made Foreign Liquors, set out to build a zero-liquid-discharge system at its molasses-based distillery in Hamira Punjab, the right evaporation system was critical. Jagatjit turned to Alfa Laval – their trusted supplier for more than 25 years – and slashed energy consumption and cleaning costs.

“We knew the best solution had to involve the right combination of falling film and forced circulation evaporators,” says Prasanna Upadhyay, Alfa Laval’s business manager for dryers and evaporators. “The customer knew us and trusted us, but they were a bit concerned about how often they would have to clean the falling film evaporators. So they carried out an industry survey.”

Independent proof for a smooth-running 5-effect system

Jagatjit gathered data on similar Alfa Laval installations and on systems delivered by other suppliers for spent wash concentration. What they learned convinced them: Alfa Laval’s concept better lived up to their requirements.

Alfa Laval designed, supplied and installed a 5-effect system consisting of four falling film and one forced circulation evaporators. Spent wash is concentrated from 9% solids to 58% - 60% solids. The system, which was commissioned in March 2009, has been running smoothly ever since.



The right configuration and the right combination of four falling film and one forced circulation Alfa Laval evaporators provide reliability and savings on both energy and cleaning.

INR 8,500,000 in energy savings

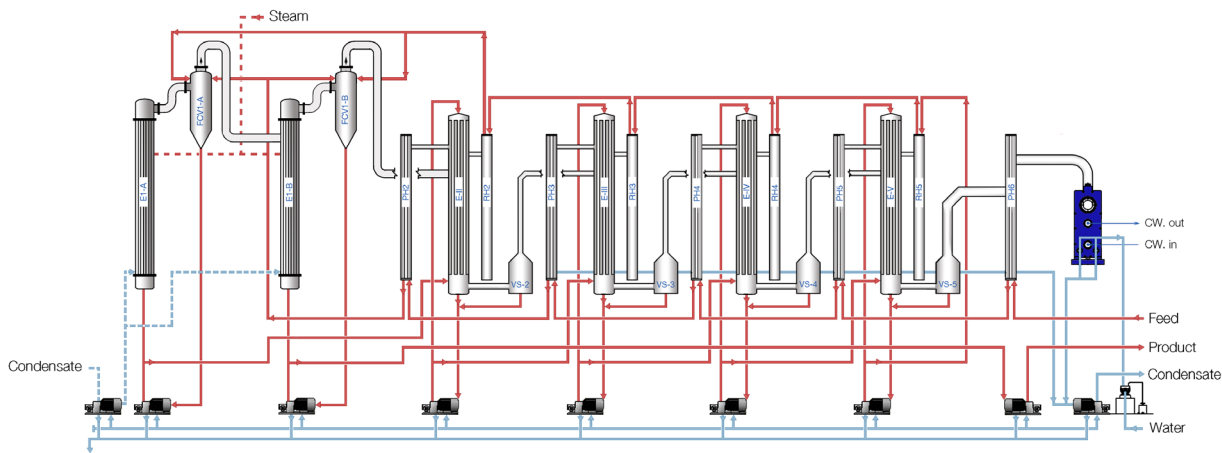
One of the main advantages of falling film evaporators is efficiency in terms of energy consumption, and the Jagatjit installation is no exception. Alfa Laval’s system saves Jagatjit approximately INR 8,500,000 (EUR 99,500) on an annual basis as compared to other systems.

When configured and designed correctly (to avoid fouling), falling film evaporators are very efficient in the early

stages of the evaporation process when molasses-based spent wash has a low viscosity. As water is removed and viscosity increases, forced circulation becomes a better solution. That’s why the right combination of the two gives the most efficient – and cleanest – solution.

¼ the cleaning frequency

“The system has been up and running now for almost five years and our early worries about cleaning frequency have



Flowchart of the 5-effect evaporation system installed at Jagatjit.

proved groundless,” says Mr. Sanjay Chopra, vice president of Jagatjit. “Now, in addition to reliability, savings due to less frequent cleaning is a major advantage of the installation.”

The right evaporator configuration and the combination of falling film and forced circulation means the system has to be cleaned only ¼ as often compared to systems supplied by others for this application – CIP is performed only once every 3-4 weeks, rather than as often as every week. Jagatjit saves on cleaning solution, on treating it after cleaning, on water and on downtime.



Jagatjit manufactures an entire range of alcoholic beverages, i.e. whisky, rum, gin and vodka.

As a vigilant business, Jagatjit keeps track of developments in their industry. They confirm that in the five years since commissioning, they have not come across as efficient a solution from any other supplier.

A satisfied customer

“Jagatjit tells us that we’ve changed their perceptions about spent wash evaporators by supplying them with our 5-effect evaporator system. They also say they’re gratified with their decision to work with us on this project and look forward to continuing our business association on future projects,” says Alfa Laval’s area sales manager, Mr Pravin Sethi. “Alfa Laval is of course extremely pleased to have provided Jagatjit with a satisfactory solution.”

Fast facts



The customer

Founded in 1944 by the late Mr. L.P. Jaiswal, Jagatjit Industries Limited has the distinction of being one of the largest integrated distilleries manufacturing potable alcohol in Asia. The company is the first of its kind in India with in-house facilities for producing molasses- and non-molasses-based potable alcohol at a fully automated distillation plant.

The challenge

To design, supply and install an evaporator system for a zero-liquid-discharge system for spent wash from molasses-based production of alcohol.

The solution

A 5-effect system combining four falling film and one forced circulation shell-and-tube evaporators.

The benefits

- Reliable operations.
- ¼ the cleaning frequency
- Savings of INR 8,500,000 (EUR 99,500 annually in energy costs
- Savings on cleaning solution, cleaning solution treatment and water.
- Less downtime.

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.