



Plate-type evaporators vital for Vietnamese cane sugar processing

Lam Son Sugar Joint Stock Corporation (LASUCO), Vietnam

Large scale, long relations

Lam Son Sugar Joint Stock Corporation (LASUCO) is one of the leading sugar producers in Vietnam, with significant production of both raw and refined sugar.

LASUCO started buying Alfa Laval plate-type evaporators for use in its raw sugar production as far back as 1997, and has subsequently installed more AlfaVap rising-film semi-welded plate evaporators than any other company in the world. The current total is 35. The LASUCO setup was originally designed to process 4000 tons of cane per day, but – after two rounds of extensions – capacity has now doubled.

Mr. Le Van Tam, chairman of LASUCO said, “The Alfa Laval team has consistently given us full cooperation and very good support ever since we adopted this then-new technology 20 years ago.”

A question of concentration

The basic LASUCO cane sugar extraction process results in juice with a concentration of approx. 13 Brix (% solids). LASUCO experts then use the AlfaVap evaporation system to take the sugar concentration all the way up to 68–72 Brix. The juice is then concentrated still further in vacuum pans.

This makes AlfaVap efficiency and reliability pivotal for the company’s performance metrics as well as profit margins. According to process manager Mr. Le Viet Hung, “Higher Brix outputs have many advantages. By reducing the boiling time in the vacuum pans, we use less steam, limit the formation of invert sugar and increase our pan capacity. This all adds up to greater output and better profits. We reckon increasing our Brix outlet to 68–72% (rather than the 56–60% normal in a Robert-type setup) brings us direct extra profits of about USD 150,000 every season.”

The campaign crunch

In Vietnam, sugar cane processing is a seasonal activity that normally lasts about 110–140 days – non-stop. This makes it vital that all key equipment is completely reliable. Any glitches, stoppages or breakdowns have extremely costly knock-on effects.

The AlfaVap installation also has the big advantage of exceptional flexibility – enabling the company to increase or reduce processing capacity as and when required, without interrupting production. This is ideal, because cane deliveries vary constantly during the campaign.

The AlfaVap system also makes it possible to keep production running at full capacity without interruption throughout the season, with standby capacity at hand at any time, should a need for repair or cleaning arise. Any AlfaVap unit can be easily taken offline while the standby unit is brought into operation without affecting output. This is verified by production manager Mr. Do Manh Hung, who confirms that there hasn't been any downtime since 2008, due to this remarkable flexibility.

Better than the alternative

In sugar processing, the Robert evaporation setup – using space-guzzling shell-and-tube heat exchangers – has long been the traditional choice for juice concentration.

But Robert evaporators have lots of practical drawbacks – in particular needing to be shut down regularly for cleaning. In addition to their considerable bulk, they need lots of space kept clear around them for cleaning and maintenance. “Making any changes to the process, or extending capacity, would be very costly – or sometimes impossible,” explains Mr. Le Viet Hung.



AlfaVap evaporators that have worked continuously at the LASUCO facility for 20 years.

By contrast, AlfaVap evaporators use rising-film plate heat exchanger technology featuring exceptional thermal efficiency, space-saving compactness and extremely resilient semi-welded plate cassettes fitted with robust gaskets that ensure long service life.

The semi-welded heat exchanger plates feature specially designed corrugations to help minimize fouling. Twin plates with welded channels on the steam/vapour side and gasketed channels on the juice side provide easy access for inspection and mechanical cleaning whenever needed. This helps maintain efficiency as well as avoiding disruptive blockages and expensive downtime.

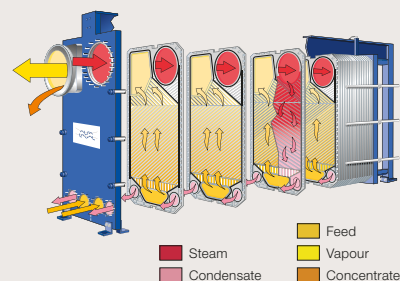
“I truly appreciate the benefits of using Alfa Laval plate evaporators, and would always recommend AlfaVap technology,” declares Mr. Le Van Tam, chairman of LASUCO.

Why AlfaVap for cane sugar processing

- Uninterrupted production
- Exceptional processing flexibility
- Output with higher Brix specifications – which shortens the boiling time in the vacuum pans

The benefits include

- Less steam needed
- Less formation of invert sugar
- Greater output



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

100000016-2-EN 2106