



## Reduce energy costs in your caustic soda evaporation plant

Let Alfa Laval perform an energy audit



Probably the world's most energy efficient caustic soda evaporation plant at Olin in Baton Rouge, USA. It is the largest caustic soda plate evaporation plant in the world with a capacity of 1,100 tpd. Today Alfa Laval has the capability to design and build plants with capacities of up to 2,000 tpd, covering all market requirements.

With energy prices rising at the current rate, there has never been a better time to look at potential ways of saving energy in your caustic soda evaporation plant. In most plants around the world there are "low hanging fruit" energy savings waiting to be made that can help reduce operating costs. These energy savings often have payback times of less than half a year.

### **We have the expertise...**

Let Alfa Laval perform an energy audit of your existing caustic soda evaporation plant. One of our experts will visit

your plant for 1-2 days, map your evaporation system and identify energy saving possibilities.

You will receive a report describing the cost savings, estimated investment and payback time. With vast experience in caustic soda evaporation, Alfa Laval has some of the world's most competent experts available to perform energy audits of this type.

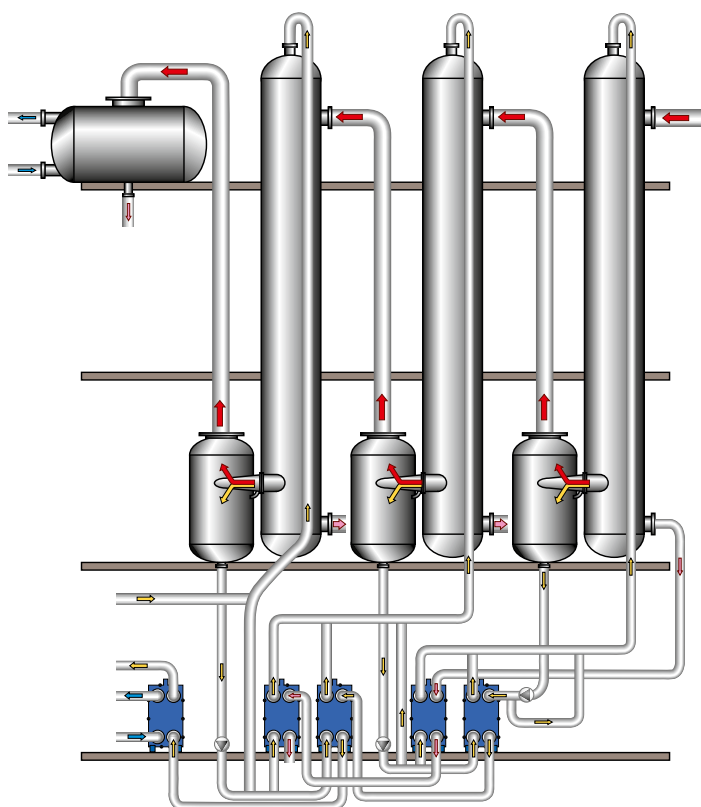
### **...and we have the experience**

Alfa Laval has supplied more than 40 caustic soda evaporation systems to customers throughout the world.

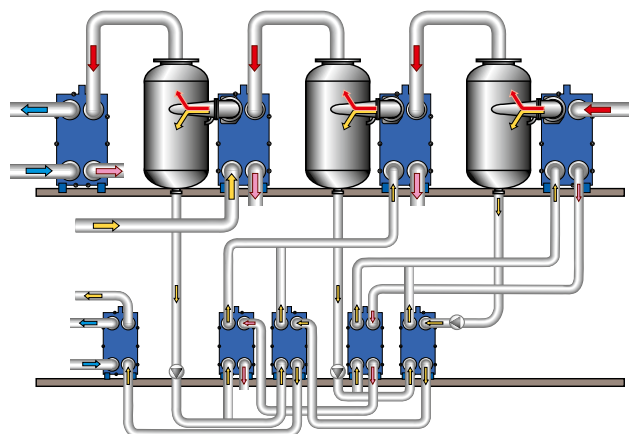
### **Impressive financial savings to be made**

Assume you have an existing 2 or 3 effect shell-and-tube caustic soda evaporation system. The capacity of your plant is 600 tpd and the steam cost is 30 Euros/ton.

1. Rebuilding 2 effect plant to 3 effects: savings 1,600k Euros/year.
2. Replace or rebuild preheaters: savings 150-450k Euros/year.
3. Boost or replace condenser: savings 30-90k Euros/year, plus lower temperatures in the system and thereby reduced corrosion rates.
4. Replacing an old, corroded shell-and-tube evaporator in effect 1 costs 400k Euros. Replacing it with a plate evaporator costs only 250k Euros.



A plate caustic soda evaporation system is significantly more compact and consumes 5-10% less steam than a traditional shell-and-tube system



We have replaced old shell-and-tube evaporators with plate evaporators in existing plants and rebuilt existing shell-and-tube plants to increase capacity or simply to improve their energy efficiency.

#### Achieve major reductions in steam consumption

We have the know-how and resources to:

1. Rebuild an existing 2 effect plant to 3 effects and save 30% steam.
2. Replace or rebuild the preheaters and save 5-15% steam.
3. Boost or replace the existing condenser and save 1-3% steam. This will also reduce the operating temperatures in the whole system, thereby reducing corrosion rates and giving increased equipment lifetime.
4. Replace old, corroded falling film shell-and-tubes with new plate

evaporators for only 60-70% of the capital cost of the shell-and-tube.

5. Boost the capacity of an existing plant by adding a plate evaporator in parallel with one of the existing effects or boosting/replacing the condenser.

#### Short payback times

The steam savings normally give a short payback time (see example in box on front page) as two customers in Korea and Japan found out. For the customer in Korea the payback time for buying and installing a total new set of preheaters and a new condenser was less than half a year. For the customer in Japan the payback time for rebuilding the plant from 2 to 3 effects was less than a year.

#### How to get an audit in your plant

If you are interested in an energy audit for your caustic soda evaporation plant, please contact your local Alfa Laval office and they will be pleased to arrange it. There will be a small fee to cover the cost of the expert's time.

#### Alfa Laval can help reduce your corrosion problems

Caustic soda evaporation is quite a tough application and several plants in the world are struggling with corrosion problems for different reasons.

Alfa Laval has huge experience in material selection for this application. In addition, we have developed features of the plant which significantly reduce some of these corrosion problems.

We also know about the mechanisms of the corrosion and ways to decrease corrosion rates and increase the lifetime of your equipment.

#### 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).