



Experience makes the difference

BIOTECH Lignosulfonate Handels-GesmbH

Case story

BIOTECH Paskov, the Czech subsidiary of the Austrian company BIOTECH Lignosulfonate Handels-GesmbH, has exclusive rights to the production and sales of lignosulphonate extracted from spent sulphite liquor produced by Biocel Paskov in the Czech Republic. Biocel Paskov is a member of the Heinzl Group® – one of the largest sulphite pulp producers in Europe – and has an annual capacity of 260,000 tons.

Lignosulphonate is used as an additive for a wide range of different purposes by the building industry, metal industry, paper and board manufacturers, etc.

“When we started producing lignosulphonate from spent sulphite liquor, we tried out several different ultrafiltration modules. Alfa Laval plate-and-frame modules provided the best all-round solution, in both technical and financial terms,” says Mr Jan Jonas, production manager at BIOTECH Paskov.

Process description

The system now installed features four loops that concentrate the lignosulphonate in the spent sulphite liquor by a factor of five. As part of the company’s ongoing efforts to improve the water balance, the permeate is recycled back to the pulp mill.

The standard operating pressure is 5 bars, and heat exchangers are used to maintain an operating temperature of up to 60°C. The membrane filtration unit is protected by a pre-filter that removes the larger particles from the feed before ultrafiltration processing.

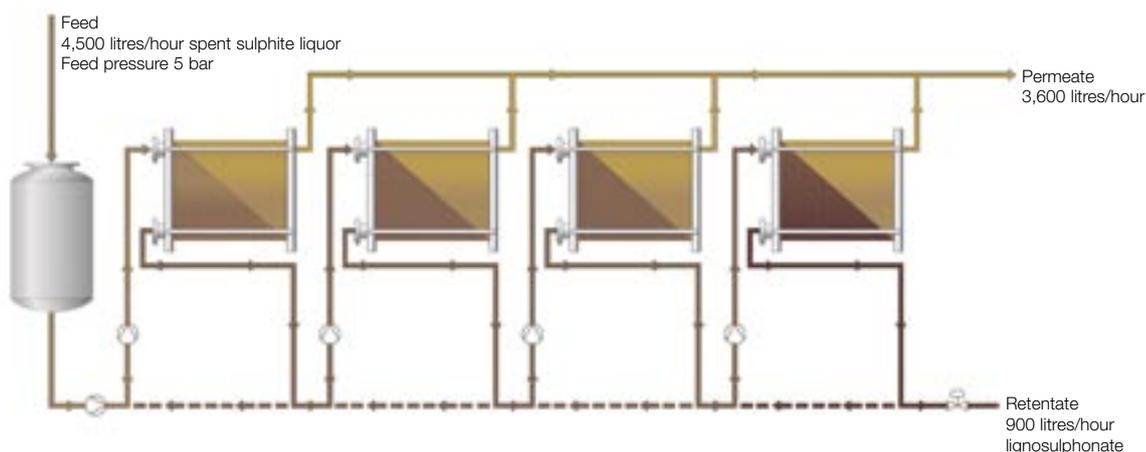


Modular design makes extension easy

After four years of completely satisfactory operation, and having experienced good sales of lignosulphonate, BIOTECH Paskov again contacted Alfa Laval.

This time, the agenda was to re-engineer the existing modular installation in order to boost the production capacity of the ultrafiltration plant. “Alfa Laval provided us with a

At BIOTECH Paskov, the plant consists of four loops with Alfa Laval plate-and-frame modules. This installation measures only 5 x 1.5 x 2 m.



straightforward solution that enabled us to extend the total membrane area by as much as 32%, simply by adding extra plates to the first and second loops,” explains Mr Jonas.

Low operating costs

An automatic cleaning-in-place (CIP) programme is run daily to keep the membrane in a state of high flux and selectivity.

“As it is fully automated, the ultrafiltration plant requires very little attention from operators. They occasionally check the relevant parameters, but do not generally have to take specific action,” adds Mr Jonas.

The plate-and-frame design features a free-flow channel arrangement that ensures energy-efficient operation.

Membrane filtration – built-in advantages

Cross-flow filtration – built-in advantages over dead-end filtration

- consistent quality
- no filter cake
- no costs associated with the removal and disposal of residue
- fewer processing steps
- greater degree of purity
- higher overall yields
- no additives
- a wide range of viscosities, including high viscosity.

Modular design

Alfa Laval can supply customers with a wide range of different membrane filtration products, ensuring that you receive the most effective and energy-efficient solution for each particular application.

Alfa Laval membrane filtration equipment is designed on a completely modular basis, where membranes are built into modules, modules are built into loops and loops are built into systems. This makes it easy to customize each system to meet your specific process requirements and to expand the installation if and when needed.

Complete familiarity

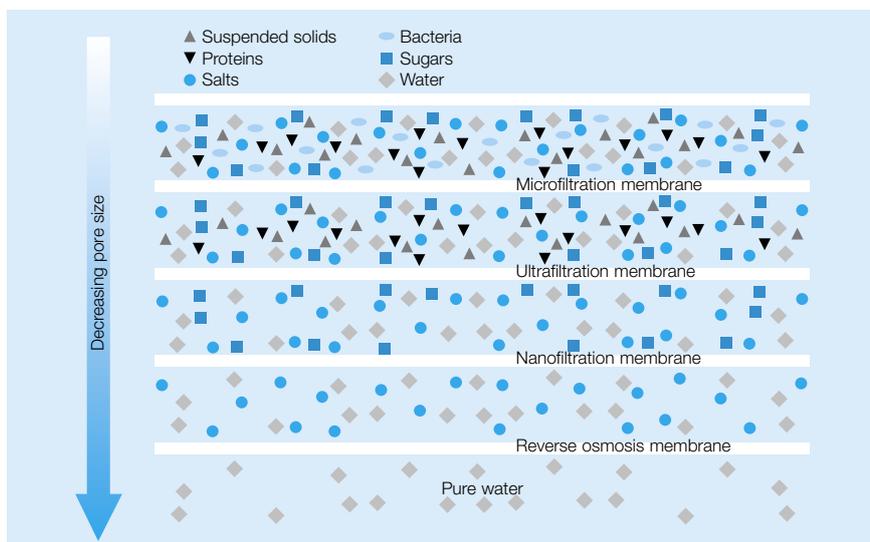
Alfa Laval membrane filtration solutions enable you to tap into the know-how and experience that come from working with the pulp and paper industry since as far back as 1971.

This experience makes Alfa Laval specialists ideally placed to develop and fine-tune a solution to meet your exact needs, because we ourselves develop, manufacture, install and service our membrane filtration systems. We can therefore combine your specific processing expertise with our unparalleled know-how about membrane filtration.

Fully comprehensive

Alfa Laval supplies membranes for all filtration processes – reverse osmosis, nanofiltration, ultrafiltration and microfiltration. A comprehensive range of both flat sheet membranes and spiral elements is available.

Alfa Laval designs, manufactures and installs complete cross-flow membrane filtration systems based on either the unique Alfa Laval plate-and-frame modules or spiral elements of different sizes. Combinations of both types can also be used. Each system is developed in close collaboration with the customer, with either batch or continuous operation and to either sanitary or industrial standards.



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How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit www.alfalaval.com to access the information direct.