

# Membrane techniques

## ■ Efficient water purification and product recycling

Many production processes give rise to liquid flows of waste. Discharging them as they are is highly expensive, not just because of the high penalties, but because they often still contain valuable raw materials. Obviously, you would like to recycle them. Unfortunately enough, however, this just isn't feasible by classic methods.

## ■ Less energy costs, less discharge penalties, less chemicals

Classic (waste) water treatment technologies do not purify the solution enough, and so valuable raw materials can be lost and high discharge penalties paid. Thanks to modern membrane techniques we can now recycle raw materials and water in an efficient manner. This is an obvious improvement in the process and results in lower energy costs and lower or even no discharge penalties.

## ■ Optimal installation, appropriate to your process fluid

The membrane techniques require a set-up appropriate to the specific characteristics of your process fluid. The best choice can only be made after tests. Laborelec has at its disposal a number of pilot installations at which to conduct technical tests and check the action on your fluid. But we don't stop at that, because we will also conduct a cost/benefit analysis for you. This lets you know exactly what you are letting yourself in for. You can also call on us for advice if you are experiencing difficulty with a technical problem, or if you are interested in a training course on membrane technology.

## ■ Two possible basic principles

### ■ Pressure technologies

A fluid is pressed through a membrane by means of a pressure differential. The pollutants remain behind in the form of a filter cake, and the fluid is purified.

### ■ An electrical field as a driving force

A constant electric field is maintained over an electrodialysis membrane, and the ions selectively migrate from one solution to the other. In this way you can cleanse specific pollutants from complex effluents.





We will think along with you to improve the profitability of your production process in a technically feasible way.

## ■ A broad range of technical benefits

### ■ Environmentally friendly

It is possible to recycle various raw materials selectively using membrane techniques. Moreover, they result in a fluid of exceptionally pure quality, which means that you have less to discharge. And the process involves hardly any chemicals, so it is easy on the environment.

### ■ Low energy consumption

When membrane techniques are used no physical transitions occur, as they do, for example, with evaporation and distillation. Membrane separation is a purely mechanical process. Thus it uses a minimum amount of energy.

### ■ Increasing your production output

Since membrane separation is so quick and the end product is usually much better in quality, it will help increase your production output - a welcome idea indeed.

### ■ New applications

With classic methods of separation some raw materials went down the drain before your very eyes. By choosing wisely from the many membranes and techniques, you can now recycle these "difficult" products too. Specific separations of this type have made new applications possible. We will be delighted to give you our advice.

### ■ Compact, modular and maintenance-friendly

And there is no need to worry about how to integrate this technology in your production process. Membrane units are compact and maintenance-friendly. Not only that but they have a modular construction. If you decide to increase your production output, simply add on a few new modules.



## Five reasons for you to choose Laborelec:

- you have one-stop shopping for your energy needs;
- you get access to more than 40 years of experience;
- you get rapid service with reliable solutions;
- you increase the profitability of your installations;
- you benefit from independent and confidential advice.

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