



## EROX<sup>®</sup> water degassing

Water degassing is necessary for a number of different purposes. Above all, in the application of high-gravity brewing process or in the soft drinks production, the oxygen content of the water is decisive for the quality of the final product. A second important application is the removal of dissolved CO<sub>2</sub>, in order to protect equipment where necessary against corrosion. The EROX<sup>®</sup> membrane process has been proven worldwide in both applications..

At the core of the EROX<sup>®</sup> process are hollow fibre membrane modules, which have a large surface area. The membranes are semi-permeable, i.e. permeable to gas but not for water.

The EROX<sup>®</sup> process achieves lowest possible oxygen contents at ambient temperature by using a stripping gas

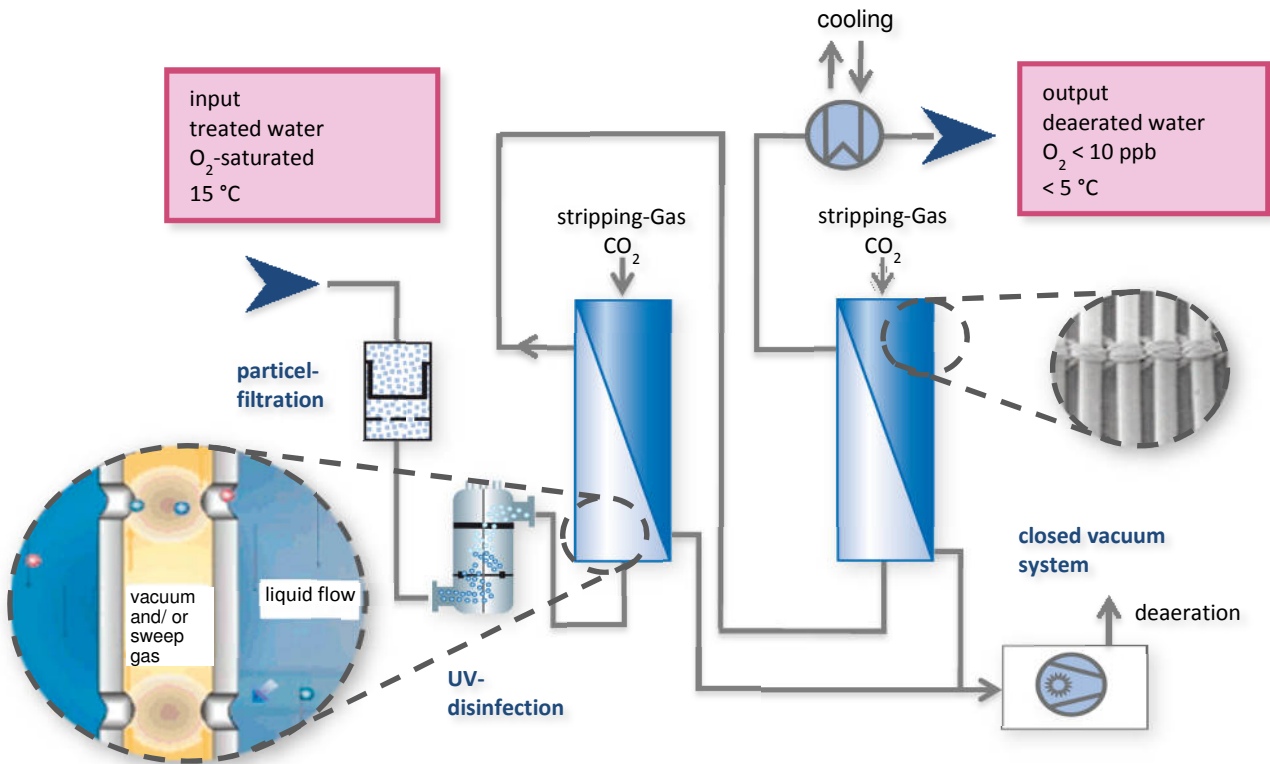
(CO<sub>2</sub> or N<sub>2</sub>) and the application of a vacuum. The water is flowing upstream on the outside of the membrane, while inside the membrane a vacuum is applied and stripping

gas passes downstream towards the vacuum pump. The membranes allow the passage of the dissolved gases in the water into the stream of stripping gas.

For CO<sub>2</sub> removal, the use of sterile air as a stripping gas usually is sufficient. A vacuum is not required for this application. It is important in this context to mention, that the system works under pressure for both CO<sub>2</sub> and O<sub>2</sub> removal. Unlike for open stripping columns a pump station is thus not required.

# EROX<sup>®</sup> water degassing

## 2-stage membrane system with cooling



In contrast to the EROX<sup>®</sup> process, the open stripping columns are pressure less after the process and so further pumping energy must be supplied for onward transport. When using the hot process there is a risk of precipitation and with the application of an open packed column microbiology is of concern.

In comparison with the traditional vacuum degassing, the EROX<sup>®</sup> process is characterised by its low operating costs, avoidance of precipitation and the compact design. In addition, oxygen contents well below 10ppb in line with all today's quality requirements are achieved without any water heating. Last but not least the EROX<sup>®</sup> unit can be in-place cleaned, which is, with regard to the high microbiological standards of the brewing and beverage industry, of great advantage

Due to the modular structure of the EROX<sup>®</sup> process, new installations and future expansions are very easy to implement. The membranes may be connected either parallel and/or in series. If required the water should be filtered and disinfected prior to the treatment in the EROX<sup>®</sup> unit. Depending on the application, a cooling of the de-aerated water to temperatures <5°C can be carried out downstream.

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