

OMBR - OMBReuse (MBR retrofit to OMBR)

Water resources being increasingly limited, depleted or contaminated, it is of great interest to achieve an efficient way to recycle wastewater into drinking water. In water sensitive area, current wastewater treatment already include membrane bioreactor (MBR), which is combining activated sludge treatment (biological degradation) and membrane (physical) separation, for improved treated water quality. However, for safe recycling of wastewater into potable water, it is required to use two successive membrane processes, as proposed for example by osmotic membrane bioreactor (OMBR). As such, it would be of great interest to retrofit existing MBR in OMBR to limit costs and required space for potable water recycling.

DESCRIPTION OF THE TECHNOLOGY

The proposed technology is a concept that combines OMBR (osmotic membrane bioreactor) with MBR (membrane bioreactor) in a single module so to reduce the difficulties of installation and simplify the operation system. Thus, this technology would renew all or part of the existing systems without the obligation to increase the volume installed and associated civil engineering costs. The fact that the OMBR modules are designed like the MBR module allows using the two types of membrane processes in the installed system.

APPLICATION AND TARGET MARKET

The target market for this device is the environmental area, specifically the treatment of wastewater and its recycling into potable water. It would be of interest to install it in WWTPs in areas where water is scarce and/or where the cost of producing drinking water is very high (i.e. as an alternative to desalination plants).

COMPETITIVE ADVANTAGES

- Similar modules/stacks are used for both MBR and OMBR instead of two separate installations.
- Space savings: No additional basin required (no additional civil engineering costs for OMBR)
- Costs savings: energy consumption and monitoring system (use the existing MBR devices) in the WWTP.
- Flexibility: the system allows partial or total retrofitting MBR to OMBR and reversely) and can adapt to water quality required with seasonal changes.



TIME-TO-MARKET

The technology is ready to be transferred to Markets

DEAL SOUGHT

License agreement

RESEARCH GROUP

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