

Airlift™ MBR



Municipal Waste Water

Challenge

Municipal waste water needs to be treated as it originates exactly there where people live. The treatment should be done as close as possible to the source. With growing cities the footprint of these plants and the quality of effluent needed have given more and more interest in compact waste water treatment plants.

In a growing number of plants submerged membranes are applied to improve them to Membrane Bioreactors (MBR). However cleanability and maintenance are not ideal in these plants, as the membranes are difficult to reach. Uniform distribution of membranes and the ability to reach every square meter of the membrane area are essential for optimal operation and keeping a plant running satisfactory.

Solution

The X-Flow's AirLift™ configuration offers a membrane solution outside the reactor allowing the maintenance of the plant to be simple and clean. Due to the inside out configuration of membrane filtration all membrane area is subject to the same process conditions. Energy consumption is at the same level of submerged membranes or even less, due to the efficient usage of process conditions for flux enhancement.

X-Flow's tubular 5 mm UF membrane will allow a bioreactor to run up to 15 g/l MLSS biomass.

X-Flow's 5 mm tubes found their way in MBR applications in the municipal and industrial market in areas such as:

- Municipal WWTP
- Food industry

The X-Flow tubular membrane modules are being produced with ISO 9000 certification.



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Features and benefits

Tight UF membrane	Turbidity < 0.1 NTU Silt Density Index < 3
AirLift filtration	Very low energy consumption Simple lay out High flux rates
Cleaning In Place	Low trans membrane pressure Fully automated cleanings Use of low cost chemicals
Fully automatic operation Atmospheric system	Logging of operating parameters Fully enclosed No operator exposure to fumes or aerosols Small footprint

Examples

X-Flow has provided membranes for MBRs for a growing number of plants world wide. Capacity ranges from less than 10 m³/hr (44 gpm) to more than 150 m³/hr (440 gpm).

WWTP Grand Traverse - USA

Capacity	100.000 gpd
Year of start up	2004
Technology	X-Flow AirLift™ MBR

WWTP Ootmarsum - Holland

Capacity	150 m ³ /h
Year of start up	2006/2007
Technology	X-Flow AirLift™ MBR

Cigarette factory Xuzhou - China

Capacity	2000 m ³ /day
Year of start up	2006
Technology	X-Flow AirLift™

WWTP Millsborough - USA

Capacity	175 m ³ /h (1,1 MGD)
Year of start up	2007
Technology	X-Flow AirLift™ MBR

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X-Flow BV reserves the right to make changes in the technical specifications at any time.

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