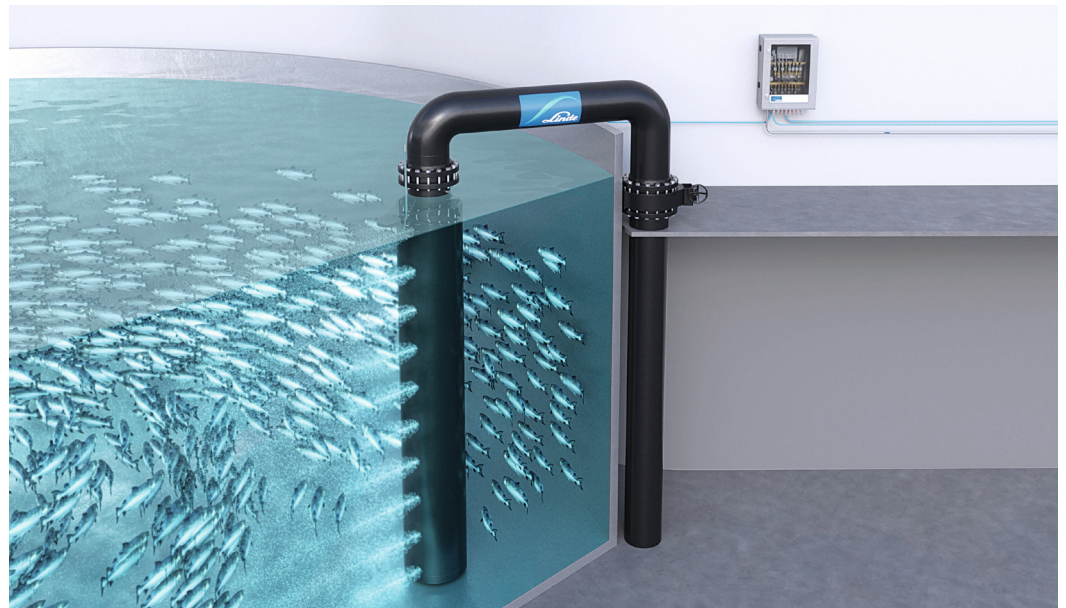




SOLVOX[®] Oxystream

Optimal oxygenation and tank hydraulics



Typical installation of SOLVOX[®] Oxystream in a fish tank

Introduction SOLVOX[®] Oxystream is tailor-made low-pressure oxygenation system for sea water, brackish water, and freshwater. Efficient oxygenation of sea water and optimal tank hydraulics can be achieved using Linde's SOLVOX Oxystream system.

- Benefits**
- Sustainable with exceptionally low cost for operation and maintenance
 - Optimal tank hydraulics
 - Efficient and reliable
 - Integrated flow indicator
 - Reduced nitrogen saturation

Description Oxystream is a patented all-in-one system. Oxystream oxygenates the water and evenly distributes it using variable flow and adjustable flow direction. The double pipe design makes it possible to rotate the outer pipe and change the direction of the water outlet jets. This makes it possible to optimize the tank hydraulics to actual production requirements as well as fish species, size, stock density and water retention time. Oxystream includes a water flow indicator which provides the user with important information about the water flow into each tank.

The microbubbles created by Oxystream reduce the concentration of dissolved nitrogen and TGP of the water. Due to this beneficial effect, the need for external degassing units can be reduced or eliminated. Oxystream oxygenates the water by generating microbubbles under optimal conditions, resulting in high dissolving efficiency. This process is highly effective with salinity levels of 11% and above, with Oxystream generally capable of meeting all oxygen demand in a fish tank. For fresh water and lower salinity levels, Oxystream is often supplemented with SOLVOX cone for efficient coverage of the full oxygen demand. The Oxystream normally requires a maximum water pressure of only 0.5-2 mWC to oxygenate the water, remove nitrogen and create optimal tank hydraulics for the fish. The low-pressure requirement makes the system exceptionally energy-efficient.

Installation

SOLVOX® Oxystream requires a top-positioned water inlet. The inlet connection is standard flanges according to DIN EN 1092/1, but this can be adapted to meet the customer’s specifications. Oxystream rests on a bracket fixed to the bottom of the tank. Oxystream can easily be retrofitted to most tanks and allows a cost-efficient installation.

For large fish tanks with high water flow rates, multiple Oxystream units are normally installed.

Oxystream is basically maintenance-free. When it comes to cleaning and disinfecting, Oxystream can be treated like any other part of the pipeline.

System integration

Oxystream can be complemented with a servo system to support the operator with easier rotational positioning of the outer pipe, thereby optimizing the direction of the water outlet jets. For an optimal Oxystream installation, we also recommend the following accessories:

- SOLVOX dosing cabinet
- SOLVOX cone (optional in freshwater installation)

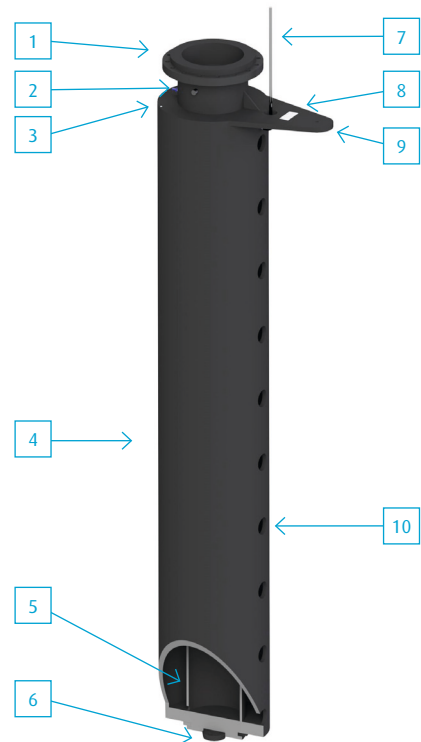
Linde offers system integration support and control philosophy.

Oxystream can achieve up to 100% efficiency. We therefore recommend the use of oxygen at purity > 99.5%. The use of oxygen at lower purity can reduce the dissolving efficiency and potentially result into super-saturation of nitrogen in the process water.

Technical data

Flange connection	DN50–DN800
Design flow per unit	5–2,300 m ³ /h
Minimum pressure requirements	0.5 mWC
Oxygen connection	½ inch BSP, hose nipple 10 mm or 12.5 mm
Material	POM-C, HDPE and EPDM

1. Flange connection
2. Gas connection
3. Rotation indicators
4. Rotatable outer pipe
5. Fixed inner pipe
6. Bottom fixation
7. Analog flow indicator
8. Name plate
9. Adjustment arm
10. Calibrated outlet nozzles



Linde
aquaculture@linde.com, www.linde-gas.com