



SOLVOX[®] OxyStream Low-pressure Oxygen Dissolver



Typical installation of SOLVOX[®] OxyStream in a fish tank.

Introduction Recently, the trend of moving aquaculture production from sea cages to land-based sites has become evident. On-growing of salmon smolts and production of full-size fish in large tanks on land leads to significantly improved productivity and excellent product quality. Adequate oxygenation of sea water and optimal tank hydrodynamics can perfectly be achieved by Linde's new SOLVOX[®] OxyStream system.

Description SOLVOX OxyStream is a low-pressure oxygenation system for sea water, brackish water and fresh water tanks. The system is a patented all-in-one product which oxygenates the water and evenly distributes it using an adjustable flow regime in the fish tank. SOLVOX OxyStream includes a water flow indicator which provides the user with an overview of the water flow into each tank.

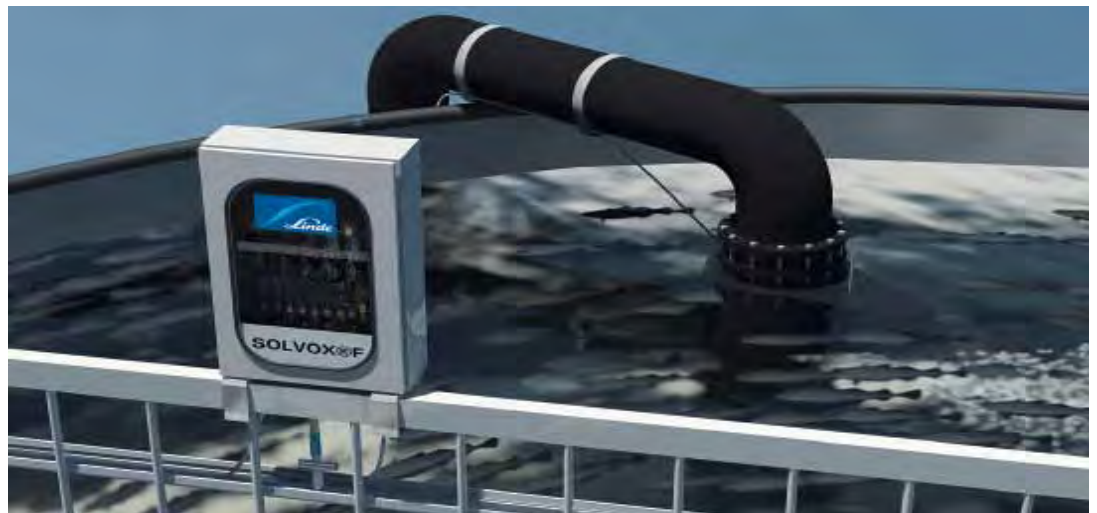
The microbubbles created by SOLVOX OxyStream reduce the concentration of dissolved nitrogen and the total gas pressure of the water. Due to this beneficial effect, external degassing units have become obsolete in many cases. SOLVOX OxyStream achieves maximum effect beginning at about 15% salinity and requires a pressure of only 1-3 PSIG to oxygenate the water, strip nitrogen and create optimal tank hydrodynamics for fish production. The low pressure requirement makes the system very energy-efficient.

In fresh water installations, SOLVOX OxyStream, combined with SOLVOX C or comparable pressure dissolvers, can oxygenate the water to a greater extent and ensure that even very high oxygen demands can be met consistently satisfied.

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Installation SOLVOX OxyStream is installed by connecting it to the water inlet pipe and fixing the unit to the bottom of the tank. A retrofit of SOLVOX OxyStream to existing tanks is therefore simple and cost-effective.

SOLVOX OxyStream is designed to achieve stable operation and requires minimum maintenance. It is also simple to remove, e. g. for disinfection. The direction of the water outlet jets can easily be adjusted to tune tank hydrodynamics to actual operation as well as fish species, size, stock density, and water retention time. A SOLVOX OxyStream installation will be adapted to each individual tank. For large fish tanks with high water flow rates, multiple SOLVOX OxyStream units can be installed. SOLVOX OxyStream is available for a wide range of tank sizes from 10 - 100 feet in diameter and 1,000 - 800,000 gallons.



SOLVOX OxyStream in operation combined with SOLVOX F oxygen control cabinet.

It is recommended that SOLVOX OxyStream installations are supplemented with SOLVOX F oxygen control cabinets for optimal operation and oxygenation. SOLVOX F can be connected to the customer's existing automatic oxygen management system.

- Benefits**
- High oxygenation efficiency
 - Optimal tank hydrodynamics
 - Easy to install
 - Low pressure requirement
 - Reduced nitrogen saturation
 - Low maintenance
 - Low power consumption

Technical Data

Water flow per unit [gpm]	Connection pipe diameter [in.]	OXYSTREAM Outer diameter [in.]	Oxygenation capacity per unit [lbs/hr]
35	2.5	3.5	0.4
50	3.0	4.3	0.7
90	4.5	6.3	1.2
130	5.0	7.1	1.7
170	5.0	7.9	2.2
210	5.5	8.9	2.6
290	7.25	9.8	3.6
530	9.0	14.0	6.6
790	11.0	15.7	9.9
1,050	12.5	17.7	13.2
1,580	15.75	24.8	19.8
3,170	22.0	31.5	39.7
4,230	25.0	35.4	52.9
6,600	28.0	43.3	82.7

Note: More than one OxyStream per tank is commonly used for large fish tanks/water flow. Operating pressure will vary with design. Sizing data above are indicative only. Units can be customized to meet specific customer requirements.

More Information

Would you like to know more about our SOLVOX OxyStream and other gas application technologies for aquaculture? Experts from Linde are at your service. Just contact your local Linde representative or visit our website: www.lindeus.com.

Linde
 10 Riverview Drive
 Danbury, CT 06810
 Phone 1.844.44LINDE (1.844.445.4633), Fax 1.800.772.9985; 716.879.2040
www.linde.com

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