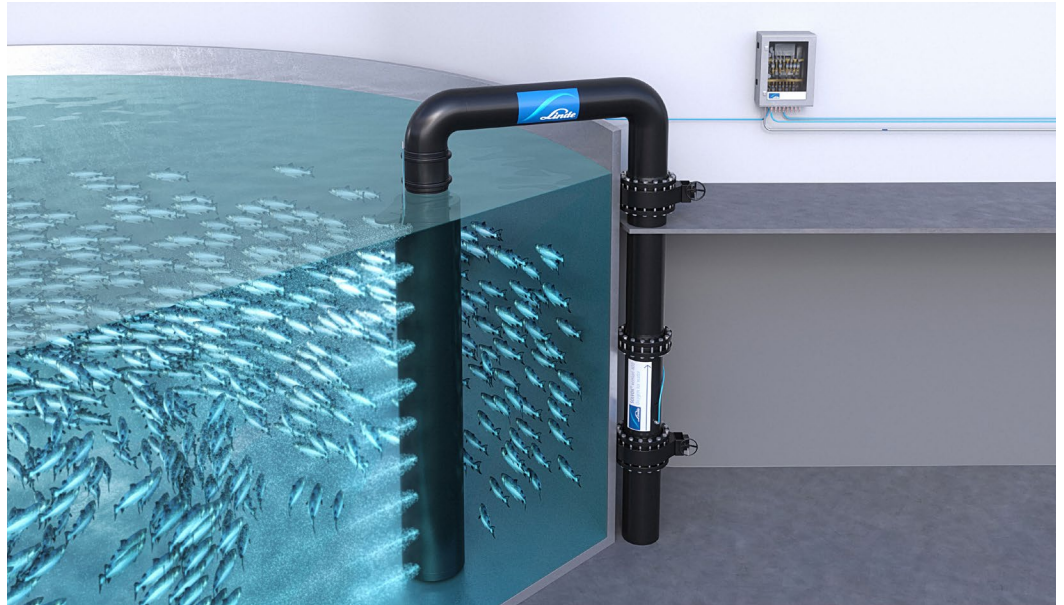


## SOLVOX<sup>®</sup> venturi

### Low-pressure oxygen dissolver



Typical installation of SOLVOX venturi, combined with a SOLVOX streamline

**Introduction** SOLVOX venturi is a patented low-pressure oxygenation unit primarily designed for sea water and brackish water oxygenation. The venturi is proven technology designed for versatile inline installations, available in a wide range of sizes.

- Benefits**
- Low energy demand
  - High oxygen dissolving efficiency
  - Low investment cost
  - Easy installation
  - No maintenance

**Description** SOLVOX venturi is an oxygen dissolving unit suitable for oxygenation of water in many different processes and setups. The unit is typically integrated inline into the pipework to oxygenate the entire water flow. SOLVOX venturi is easy to install and combines high oxygenation efficiency with low energy demand. In order to ensure an even distribution of oxygenated water throughout the entire volume of the tank, we recommend that SOLVOX venturi is combined with SOLVOX streamline. By combining these two products, the solution can be tailored for optimum performance.

The microbubbles created by SOLVOX venturi have the potential to reduce concentration of dissolved nitrogen and the total gas pressure of the water. Due to this beneficial effect, the need for external degassing units can be reduced. SOLVOX venturi 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.

**Installation**

SOLVOX venturi can easily be flanged onto the piping for the main water flow to be oxygenated; the flow direction is marked on the SOLVOX venturi body. The connections are standard flanges according to DIN EN 1092/1, but this can be adapted to meet the customer’s specifications. Normally, the venturi is installed in the water pipe leading upwards towards the tank, but bypass installation is also possible. To achieve high dissolving efficiency as well as nitrogen and TGP reduction, it is essential that the venturi is sized and installed correctly. A control valve is normally installed downstream of the SOLVOX venturi unit, lower than the water level in the receiving tank.

SOLVOX venturi is entirely made of non-corrosive materials and has no moving parts. The need for service and maintenance is therefore minimal. Because of the potentially high oxygen content, it is also essential to use control valves made in non-corrosive material, preferably a butterfly valve.

SOLVOX venturi is available in a wide range of sizes, with units that can handle water flows ranging from 3 to 2,300 m<sup>3</sup>/h.

**System integration**

For an optimal SOLVOX venturi installation, we recommend the following accessories:

- SOLVOX dosing cabinet
- SOLVOX streamline

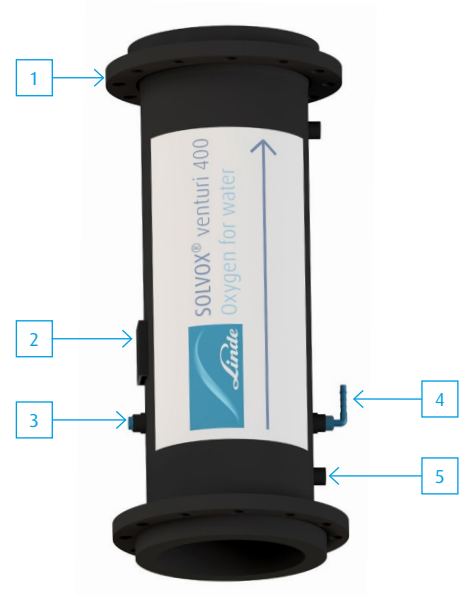
Linde offers system integration support and control philosophy.

SOLVOX venturi can achieve efficiency levels of up to 100%. 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 in super-saturation of nitrogen in the process water.

**Technical data**

Flange connection	DN32–DN500
Design flow	3–2,300 m <sup>3</sup> /h
Typical pressure drop	0.1–1.0 mWC
Oxygen connection	½ inch BSP, hose tail 6.3 mm, 10 mm or 12.5 mm
Material	POM-C, HDPE and EPDM

1. Flange DIN EN 1092/1
2. Name plate
3. Plugged cleaning connection ½" BSP
4. Oxygen connection, hose tail
5. Flange stopper



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