



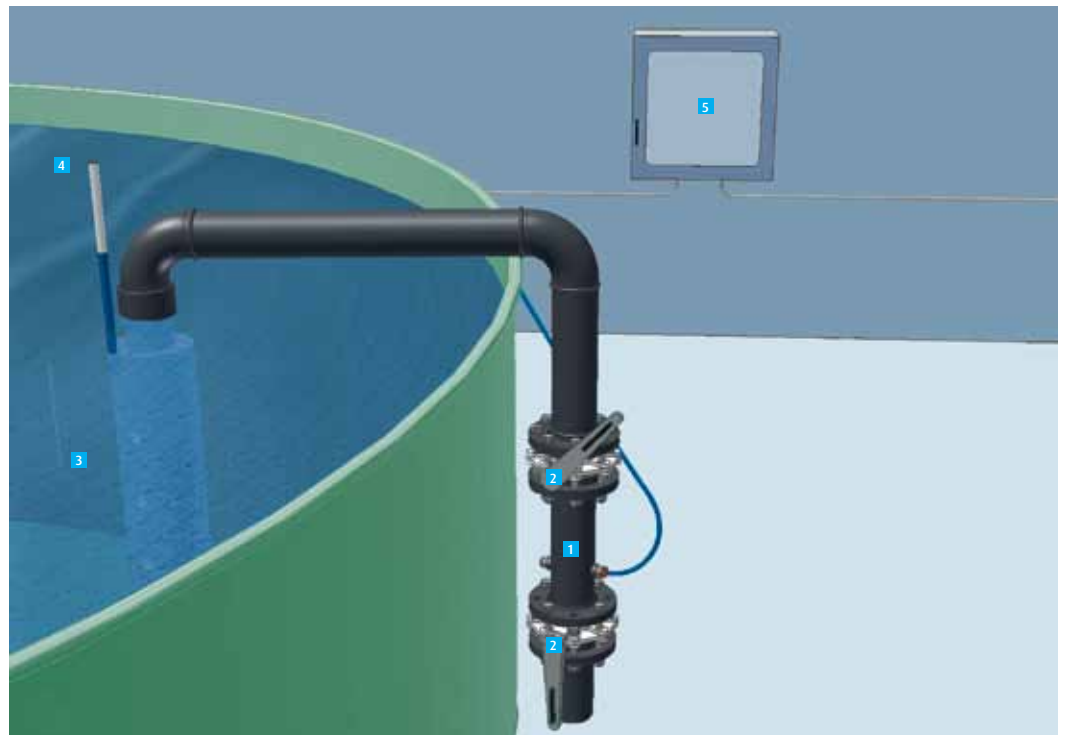
SOLVOX[®] venturi. Low-pressure oxygen dissolving unit for seawater

Introduction According to the Food and Agriculture Organization of the United Nations (FAO), aquaculture is the fastest growing sector within the food industry. Based on a corporate culture that emphasizes research and innovation, Linde is a leading partner for aquaculture companies. The exchange of information and experience between our customers and ourselves has created leading aquaculture solutions that provide decisive advantages. One of these solutions is the SOLVOX[®] venturi low-pressure oxygen dissolving unit for seawater, a cost-effective oxygenation system for fish farming.

Description SOLVOX venturi is a flexible dissolving unit patented by Linde and can be applied to any fish tank. Usually, the unit is integrated into the pipework to oxygenate the entire flow entering the tank. For larger tanks, more than one SOLVOX venturi unit can be installed to achieve optimum distribution of dissolved oxygen within the tank. SOLVOX venturi is easy to install and combines high oxygenation efficiency with low energy demand. For optimum results, a positive pressure of approximately 0.2 bar is required in the water supply pipe. In order to ensure an even distribution of oxygenated water throughout the entire volume of the fish tank, we recommend that SOLVOX venturi is combined with SOLVOX streamline, a product already well known by many of our customers. By combining these two products, optimum environmental conditions are established, thus improving fish health and allowing for faster growth.



Components 1 SOLVOX[®] venturi 2 Valves 3 SOLVOX streamline 4 Water flow indicator 5 SOLVOX dosing cabinet



We recommend combining SOLVOX[®] venturi with SOLVOX streamline, providing optimal tank hydraulics and oxygen distribution.

Installation

SOLVOX® venturi can easily be flanged onto the water inlet pipe to the fish tank. Normally, it is installed in the water pipe leading upwards towards the tank but it can also be installed in downward-facing pipes or – if required – even in horizontal configurations. Moreover, bypass or parallel installations are practicable. SOLVOX venturi is exclusively made of plastic material and has no moving parts. The need for service and support is therefore minimal.

For correct installation, the flow direction is marked on the SOLVOX venturi body. The fitting length of various SOLVOX venturi models can be found in the table below. It is important to install the water adjustment downstream of the SOLVOX venturi unit close to the fish tank inlet. Moreover, the piping between SOLVOX venturi and SOLVOX streamline should be positioned as low as possible to avoid it protruding above the water level of the fish tank.

The gas inlet to SOLVOX venturi must be connected to an oxygen control cabinet. A connection for a 10 mm hose socket for the oxygen hose is provided. Degreased, acid-proof steel or copper pipes are recommended for standard gas distribution. Check connections for leaks when water and gas pressure is applied.

The regulating valve is installed downstream of the SOLVOX venturi unit under the water level in the tank. It is essential to use regulating valves in plastic, preferably a butterfly valve. The service valve is installed in front of the dissolving unit so that service can be carried out easily and conveniently.

Benefits

- Low energy demand
- High oxygen dissolution efficiency
- Low investment cost
- Flexible oxygen dissolver
- Simple to install
- Low maintenance
- Easily retrofitted to existing tanks

Technical data

Product name	Pipe size mm	Water flow liters/min	Overall unit length mm	Oxygen capacity kg/h*
SOLVOX venturi 6	40	100	300	0.150
SOLVOX venturi 9	50	150	350	0.225
SOLVOX venturi 15	50	250	300	0.375
SOLVOX venturi 24	80	400	400	0.600
SOLVOX venturi 33	80	550	350	0.825
SOLVOX venturi 45	100	750	450	1.00
SOLVOX venturi 54	100	900	400	1.35
SOLVOX venturi 150	150	2500	500	3.75
SOLVOX venturi 400	250	7000	850	10.0

* At nominal water flow rate and 15°C water temperature.

More information

Would you like to know more about our SOLVOX venturi 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.linde-gas.com

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