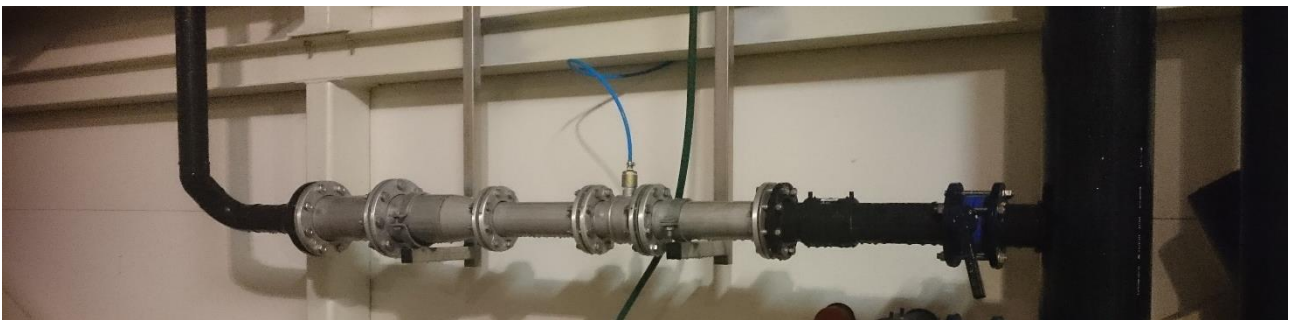


OxTube secures high oxygen content in water for Finnish fish farm

Finnish fish farm is growing several valuable species like sturgeon. They wanted to make sure that in the fasting tanks there is enough oxygen and water is clean. This was done by installing OxTube to the side stream of the feed water and the oxygen level of the water was increased to the level over 50 mg/l. This oxygen content measurement was done just few seconds after oxygen was dissolved into the water through OxTube. The new water coming to the fasting tanks is from the lake nearby and is cleaned by dissolving ozone to the incoming water. OxTube makes it possible to shorten the reaction time after the ozone dissolving. The first installation was with DN100 but it was replaced later with DN40 as the speed of the water was increased.



DN100 OxTube installed to the side stream of the water pipe.

The results from the test run are below. The temperature of the water was very low as can be indicated from the chart below. The first test was done with lower water speed but as the graph shows when the speed of the water increases, then the efficiency of the dissolved oxygen increases dramatically.

| Water In | | | OxTube | Water Out | | | |
|----------|-------------------|--------------------------------------|------------------------------|--------------------------------------|-----------------------------|-------------------|----------------------------|
| Q l/s | Temperature °C | Concentration mgO ₂ /l | O ₂ Feed l/min | Concentration mgO ₂ /l | SOTR kgO ₂ /h | Process Time s | Dissolving Efficiency % |
| 3.0 | 2.1 | 13.3 | 17 | 55 | 0.45 | 9.4 | 30.8 |
| 15.0 | 2.1 | 13.0 | 31 | 55 | 2.27 | 2.2 | 85.0 |
| 20.0 | 2.1 | 13.0 | 41 | 55 | 3.02 | 1.9 | 85.0 |
| 20.0 | 2.1 | 8.0 | 39 | 54 | 3.31 | 1.9 | 90.0 |