

OXIWORKS[®] AND OXIRISE[®]



 **BIOWORKS[®]**
... the clear solution

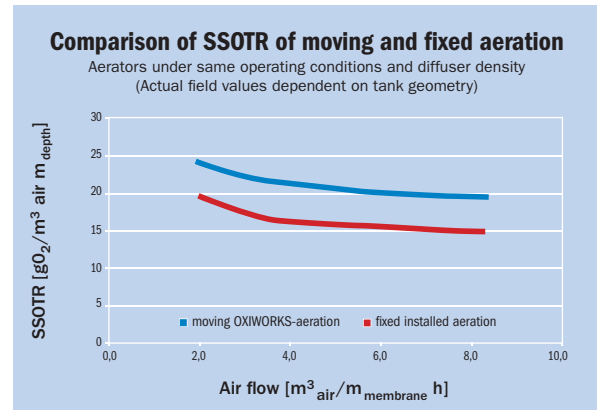
BIOWORKS® sets standards in aeration technology: OXIWORKS® with the maintenance system OXIRISE®

Efficient and economic operation of a wastewater treatment plant depends on the right choice for the aeration system. BIOWORKS® has the solution: the aeration system OXIWORKS® and its unique maintenance system OXIRISE® – field proven in countless installations, of best technical quality and with highest oxygen transfer rates. Years of experience in the field of aeration systems and detailed knowledge for the requirement of the operators enabled BIOWORKS® to develop a diffuser that combines energy efficiency, durability and easy maintenance in one product.



Energy and cost savings by moving fine bubble aeration

The basic principle of the floating and moving aeration, as used by BIOWORKS®, has proven itself multiple times in activated sludge plants as well as in aerated lagoons or other applications. Because of the lateral movement of the floating air headers, the suspended OXIWORKS® diffuser moves sideways into the adjacent zones with lower oxygen concentration, instead of maintaining a stationary upflow state.



The highly efficient fine bubble diffuser OXIWORKS® in principal provides high oxygen transfer rates. Many fine air bubbles have more transfer surface than fewer and coarser air bubbles. This directly results in increased oxygen transfer rates – an universal principle, which made fine bubble membrane aeration the most efficient in comparison to all other systems.

Guarantee for quality and long service life

OXIWORKS® diffusers are quality products, developed and made in Germany. The OXIWORKS® diffuser is fabricated solely from highly durable and corrosion free plastics and high quality stainless steel. Diffuser membranes are made from temperature- and acid resistant silicone. OXIWORKS® diffusers are in full compliance with the latest state of engineering.

Testing facility

BIOWORKS® testing facilities allow testing of aeration devices under different operating conditions as well as oxygen transfer tests in clean water according to EN 12255-15.



In-house production line

OXIWORKS® diffusers are manufactured in-house, from joining of the plastic parts until end assembly. We only source high quality materials from reputable suppliers.

All components are from German production and are under meticulous quality control – ISO 9001 certified.

Simple maintenance and cleaning by OXIRISE®

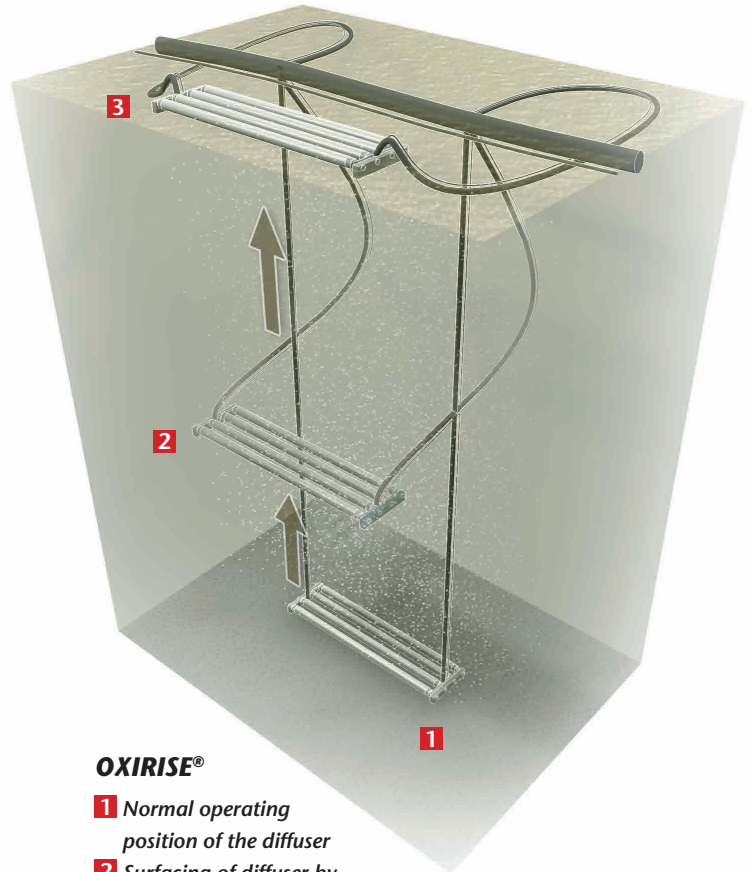
Floating aeration systems are in general easier to maintain than fixed systems. Since the diffusers don't require anchorage at the tank floor, maintenance can be done during operation without emptying the tank. However manual pulling up the diffuser is sometimes cumbersome, due to the slippery hoses and the weight of the diffuser elements. In responding to this field-request BIOWORKS® developed the maintenance- and cleaning system OXIRISE®.



OXIRISE® in practical application

By injecting pressurized air through a special air distribution system into the diffuser, each diffuser can float up individually. At the surface it can be inspected or maintained. With the simple procedure of loosening only 2 screws, the single diffuser tubes can be detached from the OXIWORKS® frame to change the membrane.

As an important side effect of the system, increased air flow shortly passes the membranes, due to lower differential pressure, thereby flushing deposits from the membrane surface.



OXIRISE®

- 1 Normal operating position of the diffuser
- 2 Surfacing of diffuser by injection of pressurized air
- 3 Diffuser in maintenance position at water surface

OXIWORKS® with OXIRISE®, an advanced and practical aeration system:

At the heart of the BIOWORKS® process, the OXIWORKS® aeration with OXIRISE® offers a technological solution that combines high and durable quality with superior efficiency:

- Energy efficiency is superior to those of comparable fixed aeration systems.
- Floating and moving aeration principle makes it possible to use cost effective earth basin construction, resulting in significantly lowered costs for civil works. OXIWORKS® does not require bottom anchorage.
- OXIWORKS® materials are chosen for robust longevity as well as suitability for operation in waste water.
- Maintenance of OXIRISE® is as simple as possible. O&M costs are reduced to a minimum.



BIOWORKS® – THE CLEAR SOLUTION

- **Highly effective technology**
- **Cost effective operation**
- **Safety and reliability**



BIOWORKS Verfahrenstechnik GmbH
Wernher-von-Braun Straße 9
D-85640 Putzbrunn

E-mail: info@bioworks-gmbh.de
Tel.: +49 - (0)89 - 451 519 56 - 0
Fax: +49 - (0)89 - 451 519 56 - 27
www.bioworks-gmbh.de

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