OSCAR Knows Aeration Control

REAL-TIME MONITORING | REAL-TIME CONTROL | REAL-TIME SAVINGS

OSCAR process performance optimizer with aeration control configurations is a customized control system used for activated sludge processes. It stabilizes the process by matching aeration needs to treatment goals, while reducing energy consumption. Some possible aeration configurations include:

- **Dissolved oxygen (DO) control** - the core of any aeration control system, using DO sensors
- **Cascade DO control** - using airflow meters together with DO sensors to regulate the valve position, increases the accuracy of the air supply and further stabilizes the DO level
- **Ammonia based aeration control (ABAC)** - combines the DO controller with ammonia sensors to target an effluent ammonia concentration from the process
- **Most Open Valve (MOV)** - provides additional energy savings by adjusting the pressure to minimize pressure losses while still ensuring an adequate air supply
- **Air bumping** - reduces diffuser fouling and associated pressure losses

Advanced sensors result in advanced control. The OSCAR system uses state of the art WTW/YSI IQ SensorNet sensors for reliable monitoring of DO, ammonia (NH_4) and nitrate (NO_3). By reducing grab samples, real-time monitoring and control provides peace of mind that the effluent quality is maintained at all times.

VARiON® Plus 700 IQ ▸
Ammonium & Nitrate measurement

AmmoLyt® Plus 700 IQ ▸
Ammonium measurement

NitraLyt® Plus 700 IQ ▸
Nitrate measurement

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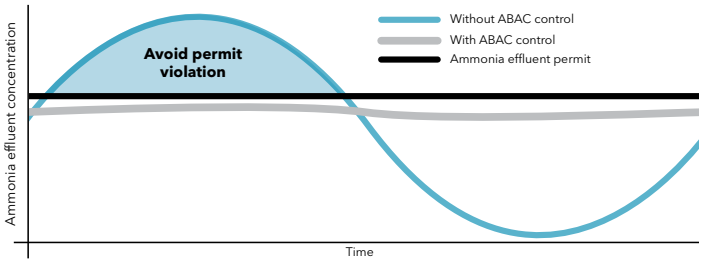
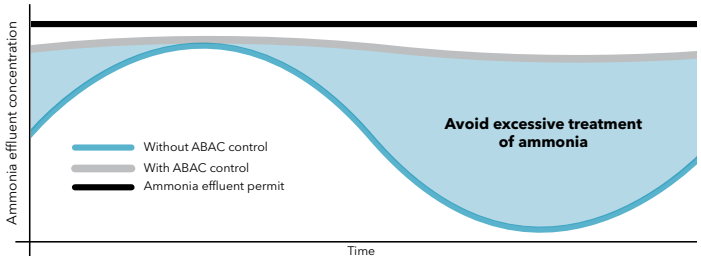
Biological Nitrogen Removal (BNR) optimized

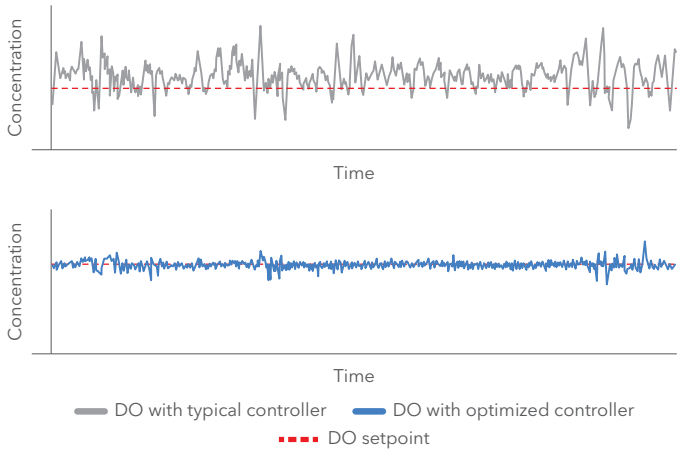
Many conventional treatment systems try to achieve BNR using DO levels alone to control the process. Trying to save energy while using only DO control risks permit violation. Using DO control alone to ensure compliance at all times waste energy. The OSCAR system with ammonia based aeration control is smarter and more flexible. With continuous monitoring of the effluent ammonia level, the air supply can be adjusted to match the actual oxygen requirement at all times, providing energy savings and keeping the plant in compliance.





Stability through advanced control

By adding MOV and cascade logics to the DO control, the system can fine tune the air supply to provide the aeration required at the lowest pressure loss and energy consumption. Anytime the DO concentration in the tank exceeds the setpoint, energy is being wasted. The OSCAR system with aeration controls stabilizes the operation and maintains the effluent quality, ultimately saving energy and money.



Backed by Sanitaire biological process expertise and supported by Xylem's suite of products, the OSCAR system ensures process optimization. Optimal treatment starts with optimal aeration control. Let one of our process experts show you how aeration controls for activated sludge takes the guesswork out of energy savings.

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