

Oxysmart

Automation for small WWTP plants



Chemitec Oxysmart

Proper management of the nitrogen and carbon cycles is crucial in order to achieve regulatory compliance without wasting resources and energy.

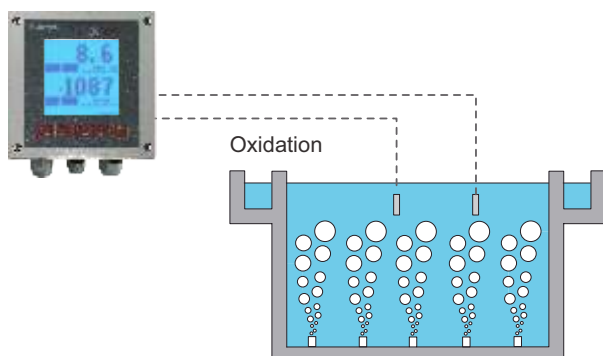
Oxysmart is a control algorithm. It is based on the proven theory that is possible, in a municipal treatment plant, to control the activated sludge treatment process by monitoring the concentration of ammonium.

Loaded on a 50-series Controller, this algorithm transforms the control unit into a system capable of managing compressors, VFDs and mixers, to optimize the process and adapt to load variations.

The Oxysmart 50-series is installed at the basin and is operational from the moment of installation. The logic is adaptable to any plant, regardless of the electro-mechanical equipment, to optimize the operation.

The OxySmart works by continuously adjusting the oxygen set-point based on the load and reduction of ammonium as detected by the included ammonium-ion selective S470/NH₄ probe.

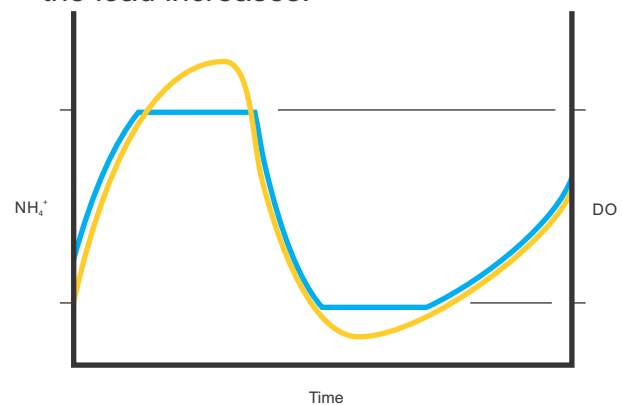
A Chemitec optical D.O. probe (also included) monitors the achievement of the target O₂ level.



Choose from one of three built-in logic models. There's one suitable for every kind of plant:

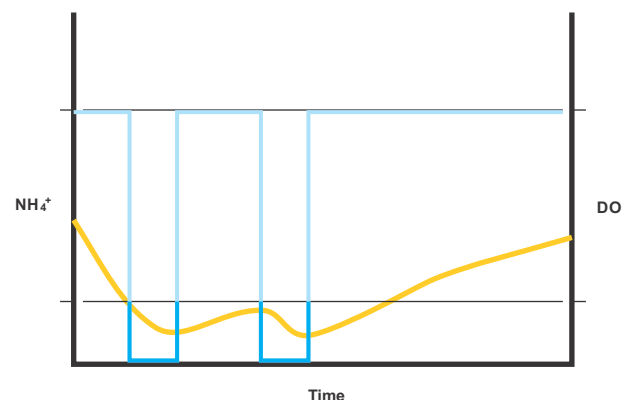
Smart DO

In low load conditions the DO threshold is maintained at low levels. It then grows as the load increases.



Smart ON/OFF

In conditions of low load, the system enters pause/work mode, ready to modulate the oxygen when the load increases.

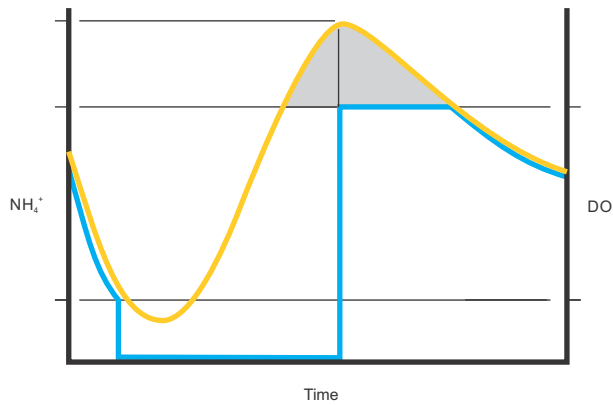


The market offers many dedicated solutions with varying degrees of effectiveness, mostly targeting (and priced for) large-scale plants serving populations of 10,000 or more.

The Oxysmart provides a high performance solution, even for smaller plants where a large staff or integrated control systems may not be present.

Smart N/DN

At the end of an aeration cycle, the system activates the mixer, turns off the compressors and waits for a peak of ammonia nitrogen; when the peak is reached, the Oxysmart reactivates aeration.



Oxysmart provides a range of security to protect the compressors and drives, as well as to compensate for a probe failure.

Alarm functions are provided in case of component malfunction, automatically adjusting the values to safety positions.

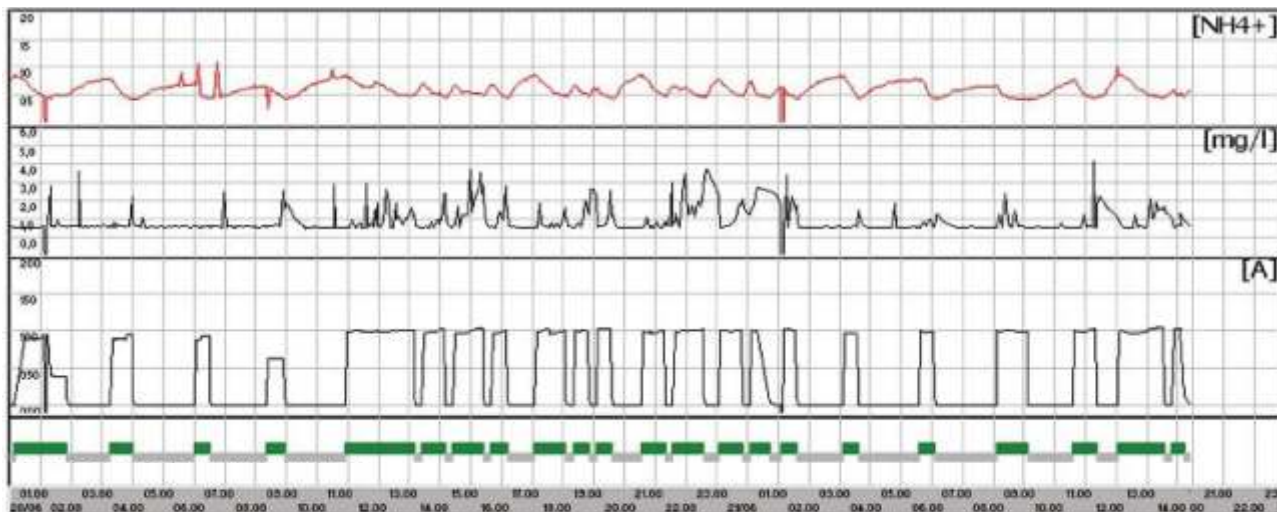
Oxysmart Benefits:

Economical: High tech at a low price. Reduced cost of ammonia-nitrogen intervention.

Simple: Easy to install, immediately operational, and low maintenance.

Advanced Control: optimization of energy consumption, effluent stabilized for compliant ammonia nitrogen levels.

Operating example (Smart N/DN logic)





ISO 9001

Quality System Certification



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