



MOdular bioSensor platform for Autonomous Contaminants

Monitoring of toxic chemicals to avoid upset of nitrification in wastewater treatment plants using biological nitrogen removal process, is essential to perform a correct operation of the plant. Toxic chemical compounds such as allylthiourea, phenols, heavy metals, sometimes interfere with the biological treatment process and affect the function and effluent water quality. However, it is impossible for a sewage works administrator to monitor a huge number of harmful chemical compounds with high frequency. Therefore, this situation requires an effective monitoring system.

The biosensor based on nitrifying bacteria, could play an important role for toxicity assessment in the nitrification process in the wastewater treatment process. Biosensor srl developed fluorescence and luminescence biosensors based on recombinant microorganisms for toxicity control of the nitrification process.

Three optical transduction devices developed by Biosensor has dedicated optics for the highest versatility without sacrifice of performance and they have different properties and applicability in field and in laboratory and/or on line:



Single cell luminometer

- Can be used stand alone or on fluidics
- Available for online measurements



Six cell fluorimeter

- Provided by microfluidic system
- Automatic analysis in lab for long term measurements
- Simultaneous and autonomous fluorescence measurement of three biomediators in double sample of the different biological class.
- ICT by a Biosensor controller to transfer data wireless to the designed email address and on a google map.



Two cell fluorimeter

- Easy, rapid and precise fluorescence measure in field
- Data transfer via wireless with a proper software