

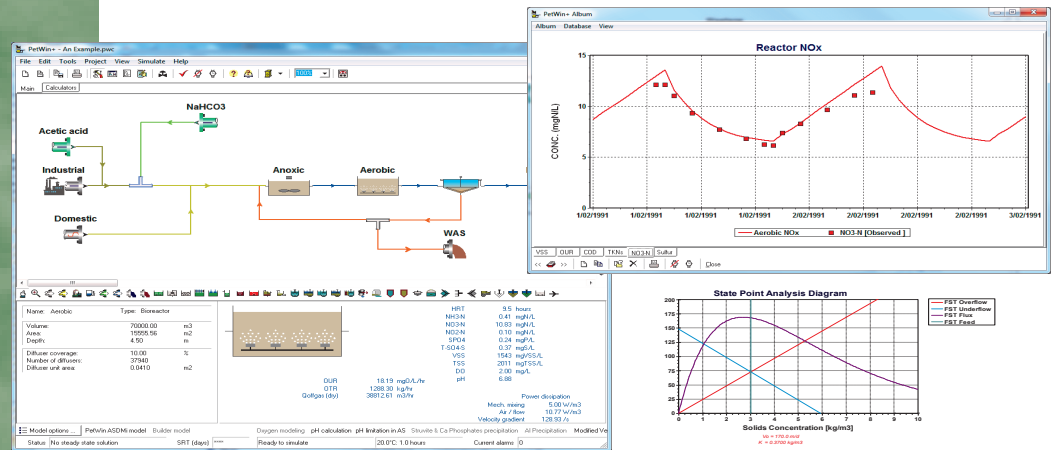
PETWIN+

FULL PLANT EDITION

PetWin+ is a dynamic simulation tool for the design and analysis of biological wastewater treatment plants receiving industrial wastewaters. Developed to provide process engineers with a powerful tool to aid design and operations, PetWin+ can analyse the behaviour of complex treatment plant configurations, with multiple inputs from industrial and/or domestic sources.

A comprehensive range of biological wastewater treatment systems can be configured in PetWin+ using an array of process modules. These include:

- Flexible influent specification (industrial influent COD fraction-based, domestic COD/BOD influents, state variable influent for complete control).
- Diffused aeration reactors, surface aerated suspended growth reactors.
- Membrane bioreactors.



- A range of sequencing batch reactor configurations.
- Floating and fixed media reactors such as IFAS and MBBRs.
- Anaerobic and aerobic digesters.
- A variety of settling tank models (point, ideal, and 1-D model).
- Equalization tanks, micro-screens, hydrocyclones, and a generic separation unit for processes such as dewatering, filter press, thickening and flotation.

At the heart of PetWin+ is the Industrial Activated Sludge/Anaerobic Digestion Model (ASDMi) the most advanced activated sludge model available incorporating sixty state variables and over ninety processes. This allows PetWin+ to provide impressive modelling results for a wide range of influent and process conditions.

Modeling Power and Precision



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Model features

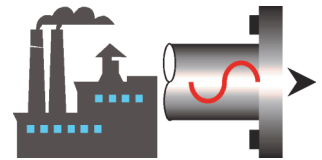
Comprehensive Sulfur modelling

Sulfur compounds can be an important component of industrial wastewaters with significant impacts on the treatment and handling of these wastes. The PetWin+ Industrial Activated Sludge/Anaerobic Digestion Model (ASDMi) includes model processes for the biologically mediated oxidation and reduction of sulfur compounds. The impact of oxidized and reduced sulfur on the pH is considered.



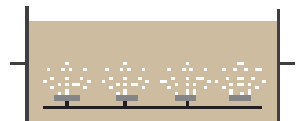
Specific industrial components

Five industrial COD state variables are included in PetWin+ that allow considerable flexibility in modeling industrial COD wastewater fractions. Unlike the ordinary user defined state variables, these state variables are involved in several processes of the PetWin+ Industrial Activated Sludge/Anaerobic Digestion Model (ASDMi). These “industrial” state variable components and processes may be customized to represent a wide range of industrial components by merely changing parameter values.



Gas – liquid mass transfer

PetWin+ can track the gas-liquid mass transfer of up to 10 compounds, including hydrogen sulphide, carbon dioxide, ammonia and three user configurable volatile industrial components. Volatilization can be an important process in many industrial wastes.



Add on additional model processes and variables

PetWin+ includes Model Builder which allows you to define model processes in addition to the 90+ defined in the PetWin+ Industrial Activated Sludge/Anaerobic Digestion Model (ASDMi). Model Builder allows full access to the 60 liquid phase state variables defined in PetWin+, as well as to the ionized species concentrations.

Created by process engineers...for process engineers.

THE ENVIROSIM TEAM

Contact the experts at EnviroSim for all your modeling and simulation needs, be it software, training or process evaluation! Join the Club!

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