# BioWin Version 3.0

FULL PLANT EDITION

The only simulator that...

- Contains an integrated biological model for BNR activated sludge, fermenters, MBBR & IFAS systems, and anaerobic digesters.

- Models pH changes (not only alkalinity!) along the whole plant, in the liquid and the sludge line as well as sidestream processes.

- Provides accurate predictions with a variety of additional carbon sources by using specific components and a specific methanol utilizing biomass population.

- Predicts struvite and hydroxyapatite formation.

- Predicts digester pH and biogas composition including CO_2, CH_4 and H_2.

- Estimates how much ammonia and CO_2 is stripped from reactors, depending on pH.

- Includes dynamic settling tank state point analysis (SPA) diagrams.
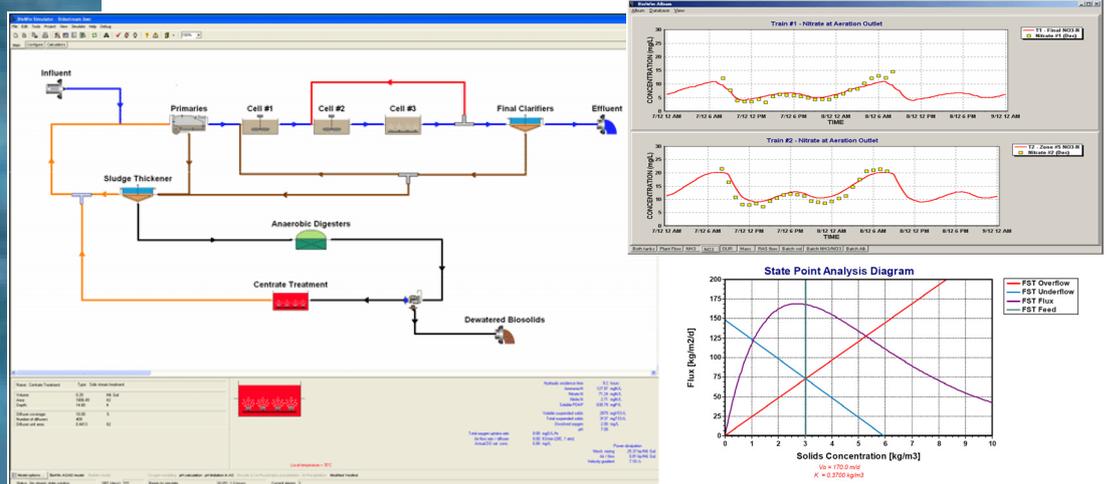
- Contains the best default parameters from the latest research publications and calibration to full plant data.

- Comes with a technically superior single model matrix (as opposed to interfacing multiple unit process models). This extensive and comprehensive solution results in greatly reduced calibration requirement and more accurate designs.

- Is developed as a tool for engineers with design and operation in mind.

- Is powerful yet easy to use, comes with outstanding customer care and delivers tremendous return on investment.

Modeling Power and Precision

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SoftFactory
WATER AND ENVIRONMENT

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New Features

BioWin 3.0 is an important step forward in process simulation. New biofilm and nitrogen removal processes are fully integrated within BioWin's reliable biological and pH model. The result: additional process and whole-plant modeling capabilities along with the ease of use and accurate performance predictions that our end users have come to expect.

Biofilm

BioWin now includes a biofilm model that allows simulation of Integrated Fixed Film Activated Sludge (IFAS) and Moving Bed Biological Reactor (MBBR) sys-tems. The model utilizes BioWin's full General Activated Sludge/ Anaerobic Digestion Model (ASDM) that tracks over 50 components with more than 80 processes acting on these components. Model parameters have been vali-dated for a wide range of systems so that quick and stable solutions provide accurate process performance predictions.
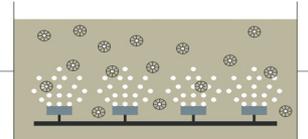
Sidestream

BioWin now includes a two-step nitrification/denitrification and deammonification model. This is required to simulate systems such as bioaugmentation, nitritation, denitritation, partial nitritation and anaerobic ammonia oxidation. The model has been developed, calibrated and verified using the latest research results on these systems. This enables BioWin to be applied for efficient design and operation of recently developed sidestream nitrogen removal proc-esses. Engineers can now effectively examine cost effective options for the separate treatment of high con-centration sidestreams from solids trains.
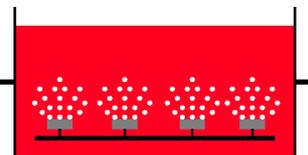
Created by process engineers...for process engineers.

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