



BioFlowsheet+SM Solutions

A wastewater treatment system greater than the sum of its parts

Water Technologies

SIEMENS





What is a BioFlowsheet+ Solution?

Advanced Solutions for Energy Recovery, Biosolids Reduction, High Performance in Small Footprints and Water Reuse.

BioFlowsheet+ Solutions is the new process optimization program from Siemens Water Technologies. It fully integrates the main unit operations of a wastewater treatment plant into a single solution.

Solutions:

- Biological Treatment
- Solids Separation
- Solids Treatment
- Controls

With a BioFlowsheet+ Solution our process experts work with the design team, analyze the efficiency of each process choice and their interaction with other components, while optimizing the overall efficiency of the entire system from start to finish. The result is an integrated treatment plant with an unparalleled value in cost efficiency, a single point for coordinated support and services and a plant-wide guarantee on performance and energy.

Key Benefits of BioFlowsheet+ Solutions.

A Deep Product Portfolio

Siemens can offer a wide range of products and processes. Each technology offers a unique solution to a specific wastewater application or design issue. Siemens' offering includes:

Biological technologies

- Orbal® multichannel oxidation ditch
- VLR® for biological nutrient removal
- VertiCel® for biological nutrient removal
- OMNIFLO® sequencing batch reactor (SBR)
- Field-erected Plants

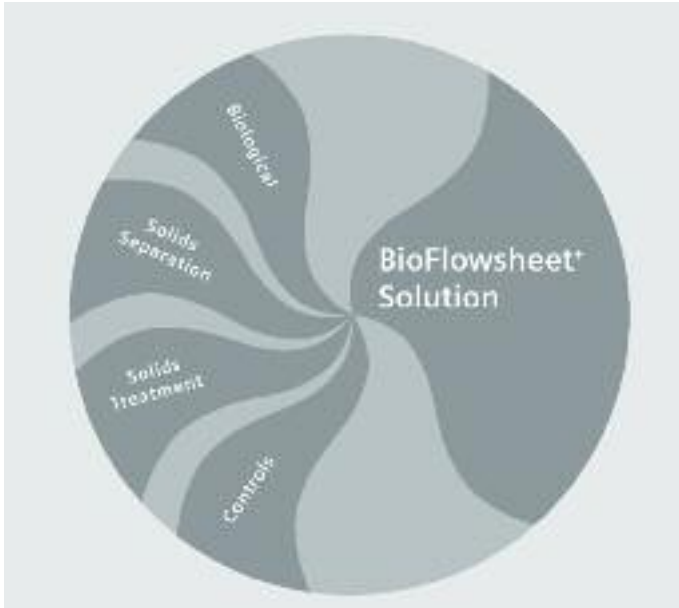
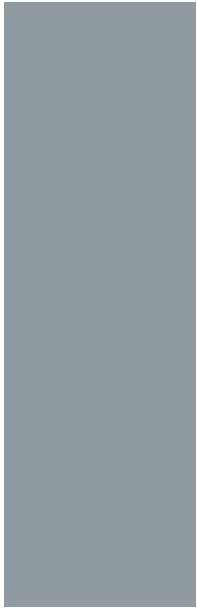
Solids separation technologies

- RimFlo® and TowBro® clarifiers
- MemPulse™ MBR systems
- Forty-X™ disc filters

Solids treatment

- Cannibal® solids reduction system
- Dystor® gas storage system
- Crown® disintegration system
- Aerobic digestion

With all of these processes available, our engineers can work with you to customize a single solution to meet any facilities unique needs.



Combining coordinated support and services for unparalleled value in cost efficiency, a BioFlowsheet+ Solution brings an integrated approach to plant treatment.

Peru, Indiana Wastewater Treatment Plant

Value-Added Products and Processes

Each of the top quality technologies in Siemens portfolio can offer a specific value based on the facility's specific needs. Whether the BioFlowsheet+ project is driven by energy cost reduction, sludge reduction, small footprint needs, low construction costs, flexible operation, expandability or water reuse. Our unified, optimized processes create an unprecedented value in cost and efficiency.

Coordinated Support and Services

Because of Siemens deep portfolio, we can offer multiple unit operations in a single facility, and therefore provide the greatest level of coordinated support and services.

Siemens BioFlowsheet+ Solutions can streamline the facility construction and startup by unifying our project management and by coordinating mechanical and process start-ups. This results in smoother execution and start-up cost savings.

Fully Integrated Controls

As the process supplier of the BioFlowsheet+ Solution, we're able to fully integrate all processes under a single, unified control system. This expertise not only allows us to build a smart, easy-to-operate control system that maximizes the energy efficiency of our technologies, it also gives the engineer and owner a single point of responsibility in the coordination of the control strategy and operation.

A Warranty with Single Point of Responsibility

BioFlowsheet+ Solutions allows you to obtain complete process responsibility from a single source with one, overall, plant-wide process performance warranty. Siemens carries a plant-wide focus dedicated to performance, from effluent quality to equipment life to energy use to biological solids production. Our focus and commitment is backed by a strong performance warranty.

A BioFlowsheet+ Success Story

An 8.0 MGD (30.3 MLD) wastewater treatment plant in Peru, Indiana provides an excellent example of a BioFlowsheet+ Solution. After discussing the city's expectations and requirements, Siemens worked closely with the city's design engineer to develop a solution that includes a Vertical Loop Reactor (VLR) process using existing tankage, a high performance TowBro® clarifier with energy dissipating feedwell and a Cannibal® system for low sludge production.

The result was an economical construction cost with much of the existing tankage used for the new design along with a significant reduction in power costs. Sludge wasting decreased from 1.32 MG/year (5.0 ML/year) to about 130,000 gallons/year (492 ML/year).

Best of all, effluent quality improved significantly, achieving consistent nitrification (ammonia averages < 0.5 mg/l) and beneficial denitrification (nitrates 1 to 2 mg/l) while faced with storm flows greater than a 6 to 11 peak to average flows.

Siemens
Water Technologies
Toll Free: 800.524.6324
Tel: 262.547.0141

BioFlowsheet+ Solutions, Cannibal, Crown, Dystor, Forty-X, MemPulse, OMNIFLO, Orbal, Rim-Flo, TowBro, VertiCel, VLR are trademarks, in some countries of Siemens, its subsidiaries or affiliates.

The information provided in this brochure contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

©2009 Siemens Water Technologies Corp.

BC-FLOWS-BR-0609
Subject to change without prior notice.