



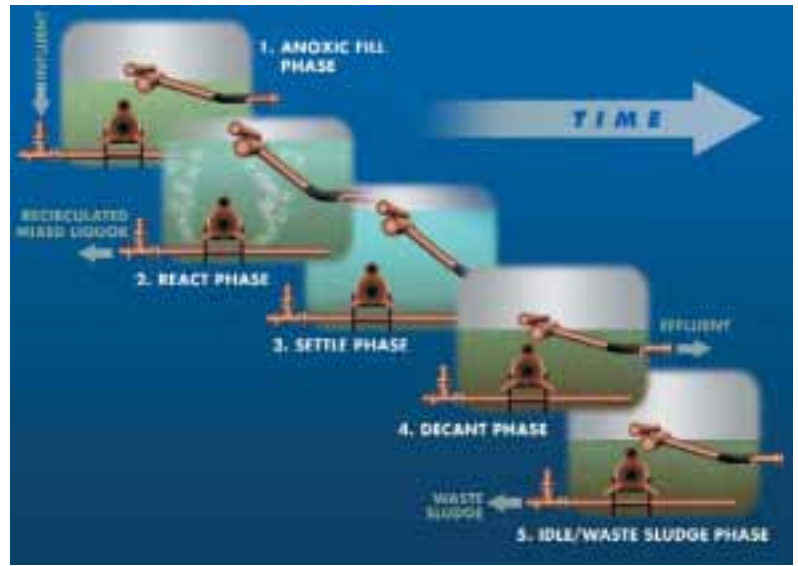
Omnipac[®] Field-Erected SBR Package Plants

Water Technologies

SIEMENS



VARI-CANT® Jet Aeration System and Floating Solids Excluding Decanter installed in OMNIPAC® Field-Erected SBR



OMNIFLO® SBR cycle

The OMNIFLO® Sequencing Batch Reactor (SBR) System

Synergy happens when two inputs exceed the sum of their total. And that's what the OMNIFLO® SBR system and field-erected package plant technologies do when they are combined in a single system. These specialized Siemens technologies — unified under the name OMNIPAC® Field-Erected SBR Package Plant — provide a revolutionary wastewater treatment solution for plant owners and operators who need the benefits of the Sequencing Batch Reactor (SBR) process in a proven treatment plant package. The benefits of this combination are far in advance of any single product currently available. The OMNIPAC® Field-Erected SBR Package Plant —the essence of synergy in today's wastewater industry—combines performance, efficiency, flexibility, and economy in a single, high-reliability package.

The OMNIFLO® SBR system, is integral to the OMNIPAC® Field-Erected SBR Package Plant and provides maximum efficiency combined with unparalleled flexibility. Plus, the OMNIFLO® SBR technology eliminates many common treatment problems.

The OMNIFLO® SBR system is a fill-and-draw, non-steady state activated sludge process in which one or more reactor basins are filled with wastewater—during a discrete time period—and then operated in a batch mode. In a single reactor basin the OMNIFLO® SBR system accomplishes equalization, aeration, and clarification in a timed sequence. In a conventional continuous flow process, multiple structures are required to obtain the same treatment objectives.

A single cycle for each reactor consists of these five discrete periods: Fill, React, Settle, Decant, and Idle. This approach is unique in handling influent flows, as well as a wide range of organic loads and industrial pollutants. The OMNIFLO® SBR process is ideally suited for applications where nitrification, denitrification, and biological phosphorous removal are necessary.

High Quality Effluent

Small Footprint

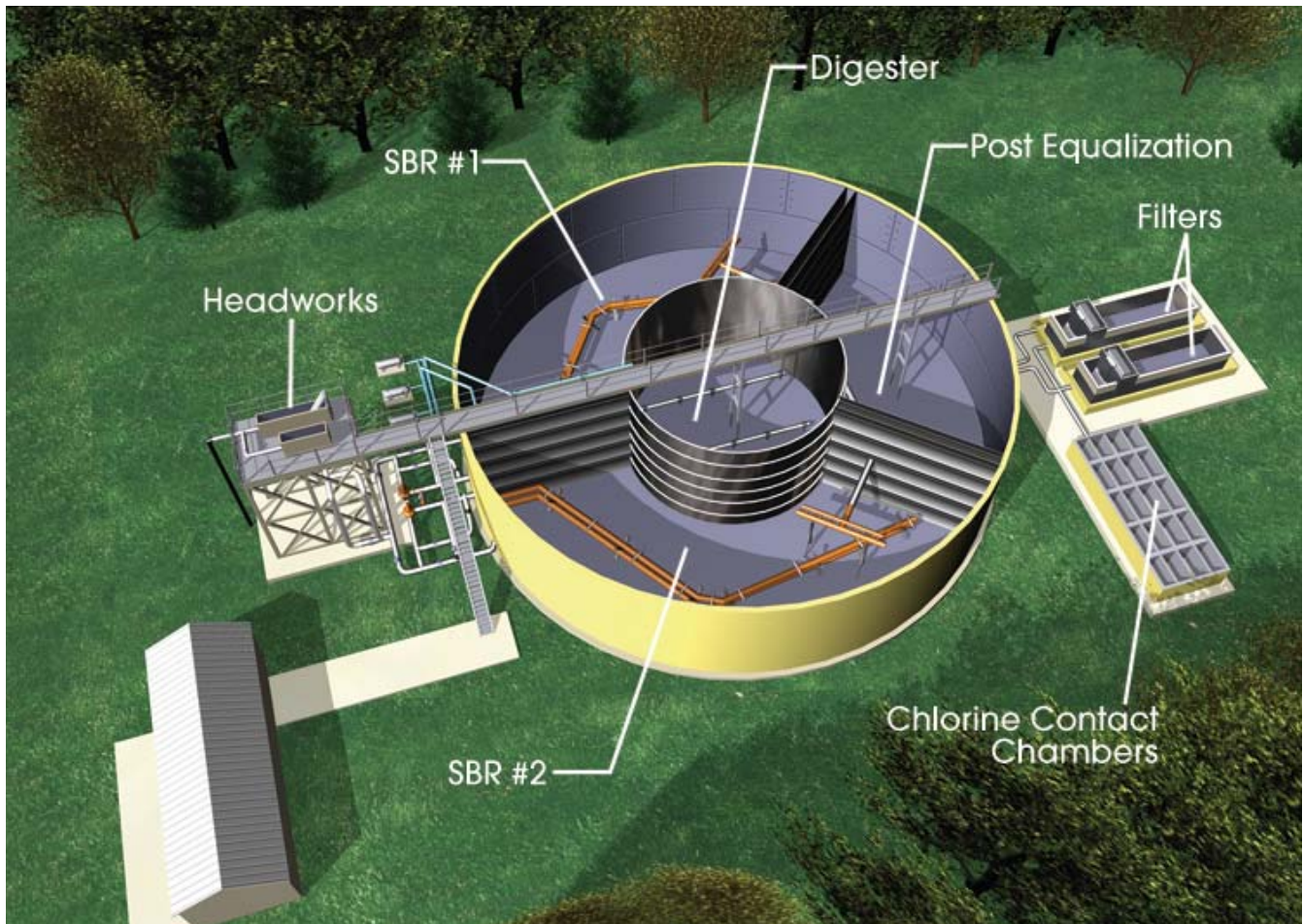
No Sludge
Recycle System

No Clarifiers

Flexible Process



OMNIPAC® Field-Erected SBR installed at municipal wastewater treatment plant



OMNIPAC® Field - Erected SBR layout



\$
Field-Erected
Plants



*Both the capital costs
and operating costs of Field-Erected
plants are only a fraction of those
of in site-built concrete plants.*

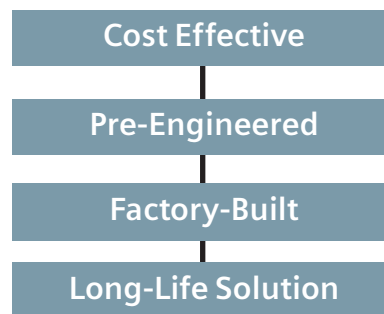
The OMNIPAC® Field-Erected SBR Package Plant

The OMNIPAC® Field-Erected SBR Package Plant from Siemens provides a cost-effective and long-life solution to treatment plant construction. This package plant approach is considerably less capital-intensive than form-built, concrete-basin type treatment plants. This is because the field-erected package plants from Siemens are pre-engineered and factory-built, which avoids the weather-related delays and labor-intensive conditions associated with built-in-place approaches.

The field-erected plants are simpler and faster to install because they require less physical space, less yard piping and electrical conduit, less maintenance, and significantly less site preparation.

Installing a OMNIPAC® Field-Erected SBR primarily requires assembling and welding together the components, then cleaning and coating the entire system as needed. Coatings will vary according to the application and the locale.

The field-erected plants have proven their long-life functionality and durability over decades and in all types of climatic extremes. They provide an immediate solution that outlasts other options—options which often cost many times more and take far longer to construct.



\$
Site-Built
Concrete
Plants



Costs and life-cycle
of Erected Treatment Plants
of these same costs
of concrete plants.



The Sequencing Batch Reactor (SBR) treatment process is ideally suited for biological nutrient removal applications, and those applications requiring high quality effluent at widely varying flows and loadings. These field-erected SBR systems are especially attractive where tight budget constraints and critical scheduling pressures are dominant factors.

Efficiency and Economy in a Single Package

Potential Plant Configurations

OMNIPAC® Field-Erected SBR plants integrate one of the industry's most advanced treatment processes into an effective and proven package system. The result is a highly flexible and efficient treatment facility that can be operational in weeks, instead of months.

In addition, OMNIPAC® Field-Erected SBR plants save money in many ways—both initially and over the long haul—because they eliminate the need for multiple tankage, separate clarification systems, and sludge recycle systems. Engineering and construction costs are also dramatically reduced by the use of pre-engineered components and the precision factory-fabrication of individual assemblies. In fact, Siemens maintains an experienced installation and construction crew dedicated to field-erected SBR projects.

Applications include: Municipal, Food and Beverage, Pulp and Paper, Petrochemical and Oil Refining, Pharmaceutical, Chemical, Landfill/ Leachate and Textile industries.



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Tel: 913.422.7600

Fax: 913.422.7667

jettech.water@siemens.com

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