

Water Technologies

Food & Beverage
Wastewater Treatment
Systems – Qualifications,
Technologies and
Experience

SIEMENS





Corporate Overview

Everyday, millions of people and thousands of companies rely on Siemens Water Technologies to treat and service their water and wastewater. Whether it's treatment for municipalities or private industries, Siemens provides customized treatment systems and solutions to meet your application requirements.

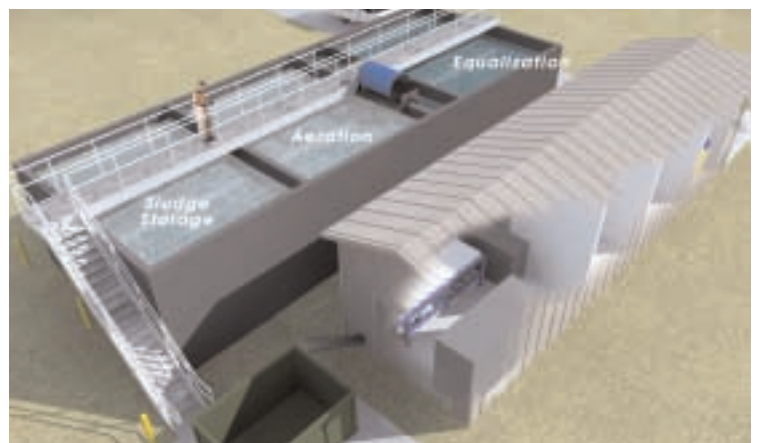
Our mission is to provide single-source wastewater treatment solutions to the Food & Beverage Industry through cost effective treatment technologies and superior customer service. Our partnership with the Food & Beverage industry has resulted in continued innovation to meet increasingly strict water and wastewater requirements, while conserving valuable water resources. All projects are designed for quality, safety and compliance.

We deliver cost effective, reliable wastewater treatment systems and services to industrial customers worldwide. Our team of experts comprised of engineers and scientists have decades of experience in the food and beverage industry. As a worldwide leader in water and wastewater technology, we offer a comprehensive, solutions approach to the food processing and beverage production industries. We are able to provide fully integrated, single source solutions by offering a complete range of services including:

- Application and Design Engineering
- Treatability and Pilot Testing
- Equipment Manufacturing
- Turnkey Capability
- Project Management
- Commissioning
- Operator Training
- Comprehensive Service Offering
- Performance Warranties
- Financing

We combine physical, chemical, and biological processes for the removal of organics, solids, and other contaminants from wastewaters typically generated by your industry. Complete systems are designed utilizing the most appropriate technologies to meet pretreatment, direct discharge, or reuse/recovery applications.

We are focused on providing comprehensive safe solutions to food and beverage wastewater plants. Our financial strength, broad product resources and collective experience are your assurance of our commitment to you and your environmental requirements.



Processes

Our equipment and processes are designed to work together and complement one another to ensure treatment requirements and expectations are met. Our global brand names include Davco, Envirex, General Filter, JWI, Memcor, Paques, Stranco, Wallace & Tiernan and Zimpro.

KEY WASTEWATER TREATMENT TECHNOLOGIES AND PRODUCTS

PRETREATMENT

For your pretreatment needs, Siemens Water Technologies offers a wide range of screens, primary clarifiers and Dissolved Air Flotation (DAF) systems for the removal of gross solids, suspended fats, oils and greases (FOG).

BIOLOGICAL

We are a leading provider of aerobic and anaerobic wastewater treatment systems to the Food and Beverage Industry. Our processes and technologies include an entire range of anaerobic and aerobic systems which include moving bed bioreactors (MBBR), complete mix activated sludge systems (CMAS), sequencing batch reactors (SBR) and membrane bioreactors (MBR). We specialize in field-erected wastewater plants offering all biological processes and mechanical equipment designs.

SOLIDS HANDLING / REDUCTION

Wastewater treatment operations frequently must account for residual solids produced in the treatment processes. Siemens Water Technologies provides a wide range of equipment and services for handling and dewatering solids including pumps, conveyers, presses, centrifuges, and filters. In addition we offer the Cannibal® Sludge Reduction Process, which can reduce biosolids up to 90% in industrial activated sludge plants.

WATER REUSE

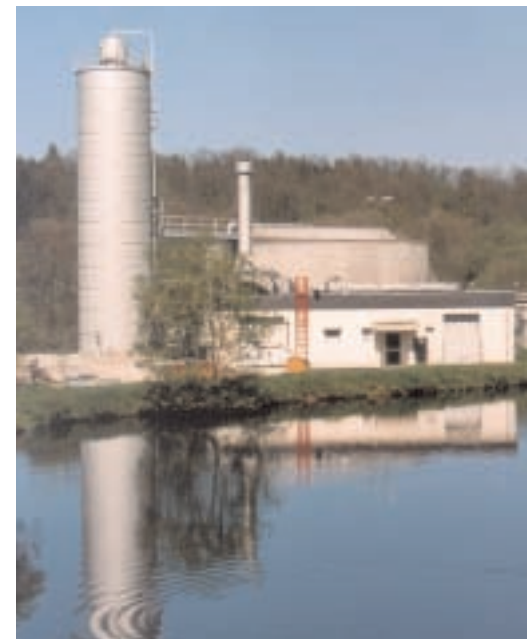
In today's regulatory environment, companies are increasingly confronted with the rising cost of supply water, discharged wastewater surcharges, strict effluent limits and allowing for recycle / reuse of the treated effluent. Our technologies such as membrane bioreactors, membrane filtration, reverse osmosis and multimedia filters can treat and recycle water for use as boiler feed, process water, cooling water and many other applications.

ODOR CONTROL

We specialize in the development and supply of innovative technologies for the control of odors in wastewater collection and treatment systems. Among the systems we offer are activated carbon adsorbers, biofilters and scrubbers.

CHEMICAL FEED & DISINFECTION EQUIPMENT

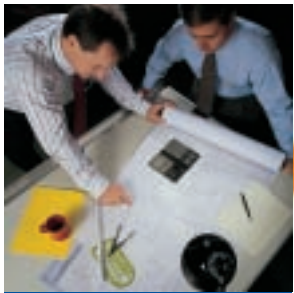
Siemens Water Technologies offers a large selection of chemical feed and disinfection products that are designed to accommodate virtually any wastewater application. Our extensive product line includes gas, liquid and polymer feed systems, controllers and analytical instrumentation. Both standard and customized chemical feed systems are available.



Project Team



Project Management



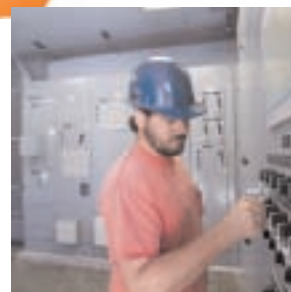
Engineering



System Design



Construction



Start up

Each project is managed by a team consisting of a project manager, project engineer and site supervisor which is supported by design engineers and trained customer service technicians. Each member of the team is responsible for managing their portion of the project to completion and communicating project progress to ensure successful system operation. Each team is focused on all project details, with access to the complete range of equipment, processes and service offering from Siemens Water Technologies.

Our project team has a proven organizational structure that maximizes our core capabilities for each project. The experienced team includes licensed contractors and professional engineers who have received training and certification in all areas of project management, time management, scheduling, budgeting, cost control, environmental regulations and safety.

Project Capabilities

SYSTEM DESIGN

Our process and design engineers work closely with our construction supervisors to evaluate treatment processes and equipment to build the most cost-effective energy efficient facility.

CIVIL/STRUCTURAL

We provide all civil/structural installation work from the structural pilings at the beginning of the project to final landscaping at the end. Concrete placement, steel tanks, platforms and buildings are all within our regular scope of services.

MECHANICAL

Our mechanical expertise includes equipment design and retrofitting, machinery setting, structural erection and support systems, start-up and operation.

PIPING

We have years of experience in above and below ground piping installations with HDPE, fiberglass, stainless steel, PVC and double-contained piping systems.

ELECTRICAL

Typical electrical installations include ductbanks, conventional cable tray conduit, underground vaults, pull stations as well as lighting, instrumentation and communications systems.

MANUFACTURING / PROCUREMENT

Our procurement specialists have access to an unparalleled network of equipment manufacturers. Siemens Water Technologies has 8 facilities that manufacture wastewater treatment equipment for the Food & Beverage Industry. They work to obtain the best value for our customer, prevent costly delays and ensure that equipment and materials arrive on schedule at the jobsite.

PARTNERSHIPS

Partnerships are formed with local construction and engineering firms for turnkey projects and services.

QUALITY CONTROL

Quality assurance personnel inspect equipment and components based on strict quality standards. Quality tests include dye penetrant, hydraulic, pressure and X-ray testing.

START-UP SERVICES AND OPERATOR TRAINING

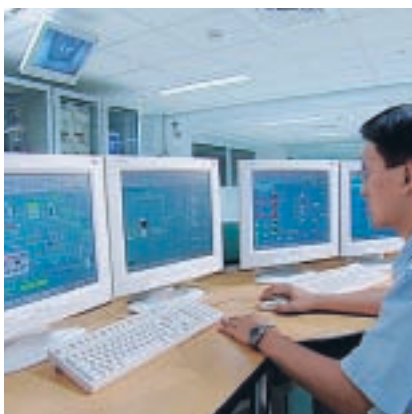
Siemens Water Technologies has numerous wastewater systems installed for the Food & Beverage Industry. We provide various start-up services including equipment checkout, process commissioning, chemical start-up and performance testing. We also offer classroom and hands-on training for operators in addition to providing detailed operations and maintenance manuals for the entire treatment system and facility.

SAFETY

We are proud of our commitment to safety and know that it is a top priority with each of our clients. We comply with all OSHA regulations both in our offices and at job locations. Our engineers and site staff are required to complete safety training courses which include: confined space, lockout/tagout, personnel protective equipment and hazardous materials awareness. Our company maintains one of the best safety records in the industry, with an incident rate that is lower than the national average. Statistics are available upon request.

FINANCING

Siemens Water Technologies provides industrial clients with a wide range of financial packages and options. Contact us to find out more and discuss your needs.



Innovative Solution



A producer of frozen concentrated and chilled citrus juices recently installed a full turnkey wastewater treatment system at their facility. Siemens Water Technologies designed and constructed this 1.2 million gallon per day (MGD) complete mix activated sludge (CMAS) process with clarification, sludge handling and dewatering. The project management team was responsible for:

- Geotechnical Survey and Design
- Civil and Process Engineering and Design
- Construction and Installation
- Instrumentation and Controls
- Start-up and Commissioning

Severe site restrictions dictated an innovative plant layout design including the use of post tensioned concrete walls and an integrated tank arrangement. Additionally, the site required extensive preparation with over 500 steel beam pilings and included demolition of the existing wastewater system. This impressive facility is 218 feet in diameter with walls standing 32 feet high at a width of only 14 inches.

The magnitude of this project presented numerous logistic challenges requiring “dry-run” planning and around-the-clock continuous concrete pours for the base of the plant. Other challenges included the routing of piping and utilities under a railway line and maintaining uninterrupted production throughout the juice manufacturing facility.

The design influent and effluent quality for BOD and TSS is as follows:

	BOD mg/l	TSS mg/l
Influent	5,000	500
Effluent	200	200

In the end the customer was delivered a facility with all requirements met in terms of reliability and effluent quality.

The following installations provide examples of our project integration and installation.

SNACK FOOD PRODUCER

- OMNIFLO® Sequencing Batch Reactor (SBR)
- Process train includes equalization, pH neutralization, SBR, and sludge digestion
- Replaced existing package plant
- Utilizes cast-in-place concrete



FRUIT PRODUCER

- Paques BIOPAC® IC High-Rate Anaerobic Reactor
- Process train includes equalization, BIOPAC® IC Reactor, complete mix activated sludge (CMAS) effluent microfiltration (for water reuse) sludge handling and dewatering
- Utilizes field-erect steel construction



MEAT PROCESSOR

- OMNIFLO® Sequencing Batch Reactor (SBR)
- Process train includes lift stations, screening, equalization, DAF, SBR, effluent filtration and chlorination (for water reuse) sludge handling and dewatering.
- Utilizes cast-in-place concrete with pre-cast facade panels for aesthetic considerations



FRUIT / VEGETABLE CANNING

- Complete Mix Activated Sludge (CMAS)
- Process train includes equalization, CMAS, clarification, sludge handling and dewatering
- Fast track project with installation occurring in less than eight weeks from purchase order release to start-up
- Utilizes field-erect steel tank construction



BEVERAGE BOTTLER

- OmniCell™ Low Rate Anaerobic Lagoon
- Process train includes equalization, pH neutralization, low-rate anaerobic lagoon, complete mix activated sludge and clarification.
- Lined and covered earthen lagoons



OUR COMMITMENT

Siemens Water Technologies is able to offer the resources, technologies, scope of services, experience and financial strength your project demands. We are committed to handling your wastewater treatment requirements allowing you to focus on your core business.

We lead the wastewater treatment industry in design-build, manufacturing and service offerings. With reliable people and an unparalleled portfolio of technologies and customer support we can ensure that all project requirements are met on time and with a single source guarantee.

Contact us today to discuss your
wastewater treatment system needs.

Siemens
Water Technologies
1051 Blake
Edwardsville, KS 66111
Tel: 1.913.422.7600 phone
Fax: 1.913.422.7667 fax
FoodandBeverage.water@siemens.com
www.usfilter.com

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