Sanitaire ICEAS™ Advanced SBR

SANITAIRE®
a xylem brand

Harnessing a simple and reliable solution for quality water

The Sanitaire ICEAS Advanced SBR is a continuous flow biological treatment system that provides multiple advantages over conventional activated sludge and other SBRs by bringing together process, aeration, decanting and control in a single treatment tank. It is fully automated and includes a completely integrated process design consisting of the aeration system, blowers, pumps, mixers, effluent decanters, monitoring and control equipment and comprehensive process control system.

Simplifying operations for reliable results

The ICEAS SBR is designed to reduce complexity of operation. Unlike conventional activated sludge plants, there is no need for primary or secondary settlement tanks or return sludge pumps. All treatment is done in a single basin. Continuous inflow distributes variations in flows and loads evenly across all basins – simplifying day to day operations and operational changes as well as accommodating single basin operation for low flow and maintenance conditions.

The intelligently designed process control system with simple, intuitive time-based control and trending capability provide a full system overview, making it easy to optimize plant performance, predict maintenance and reduce operating costs – taking the complexity out of SBRs.

The ICEAS SBR can handle flows from 100 m3/day to 300,000 m3/day. It can be designed to accommodate up to six times average daily flow while assuring high effluent quality across the entire flow range with the unique basin design and actively controlled decanter. Sanitaire's proprietary Sludge Inventory Management System (SIMS) automatically maintains the preset solids retention time, resulting in reliable settling characteristics and effluent quality, all while reducing operator attention requirements.

The ICEAS process also effectively removes nitrogen and phosphorus from wastewater through biological nutrient removal (BNR) process.

Sanitaire ICEAS SBR has proven performance in nearly 1,000 treatment system installations worldwide.

1 Blowers 2 Pre-react 3 Mixer 4 Aeration 5 Pump
6 Decanter 7 Process control

ICEAS products: Sanitaire Silver Series, Flygt compact mixers, Flygt submersible-N-Pumps, Sanitaire decanters, ICEAS control systems.

Designed with life-time efficiency in mind

Sanitaire is focused on producing cost-saving water technologies that use less energy throughout the lifetime of the project by not only using highly efficient aeration grids and blower technology but also cutting edge controls and instrumentation which use innovative algorithms to control the aeration and process, minimizing energy use by up to 50%.

Using Sanitaire's continuous inflow distribution technology the peak load is spread across all basins simplifying operation and saving up to 30% on the total footprint. ICEAS is designed to use a smaller footprint, reducing up-front capital expenditure by using less land and lowering civil construction costs. With almost 1000 installations, our experienced design team can put together an optimized, flexible solution to meet not only your current needs but also provide the expandability to meet your future emerging requirements.

A partner from start to finish

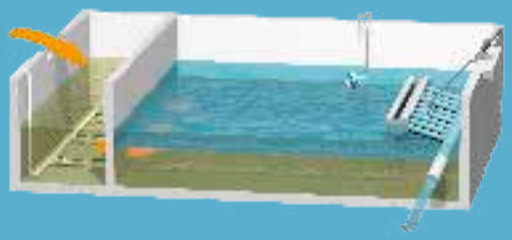
Xylem products have been helping to solve water and wastewater challenges for decades. With a broad portfolio of advanced solutions and technologies, we apply our process capability, engineering expertise and regulatory insight to help design systems that are right for you. As your single source provider, we work to reduce your risks by providing equipment-control integration, and the support needed to ensure a successful installation and ownership. Xylem stands behind our solutions with both equipment warranties and process performance guarantees.

The ICEAS phases

With its continuous flow process, Sanitaire ICEAS SBR features three distinct treatment phases:

React phase: Screened and de-gritted wastewater flows continuously into the prereact zone and enters the main react zone through submerged ports in the non-hydrostatic baffle wall. Biological oxidation and reduction occur through aeration, anoxic and anaerobic sequences within the react phase to predictively achieve the desired treatment.

Settle phase: Basin agitation from the react phase (i.e. aeration and mixing) is stopped to allow the solids to settle to the bottom of the basin. Raw wastewater continues to flow into the pre-react zone while the main react zone settles. As the solids settle, a clear layer of water develops on top of the basin.



Decant phase: The decanter descends gradually downward to draw off the clarified supernatant. Wastewater continues to flow into the pre-react zone as the treated and clarified effluent is decanted from the main react zone at a constant rate. Waste activated sludge is typically removed from the basin during this phase.

About Xylem

Xylem (NYSE: XYL) is a leading global water technology provider, enabling customers to transport, treat, test and efficiently use water in public utility, residential and commercial building services, industrial and agricultural settings. The company does business in more than 150 countries through a number of market-leading product brands, and its people bring broad applications expertise with a strong focus on finding local solutions to the world's most challenging water and wastewater problems. Xylem is headquartered in White Plains, N.Y., with 2012 annual revenues of $3.8 billion and 12,500 employees worldwide. In 2012, Xylem was named to the Dow Jones Sustainability World Index for advancing sustainable business practices and solutions worldwide.

The name Xylem is derived from classical Greek and is the tissue that transports water in plants, highlighting the engineering efficiency of our water-centric business by linking it with the best water transportation of all – that which occurs in nature. For more information, please visit us at www.xyleminc.com

xylem
Let's Solve Water

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