

LOTUS™ - ActiveCell™

THE LOTUS-ActiveCell ADVANTAGE:

Lotus-ActiveCell is a state of the art moving bed biological reactor (MBBR) technology capable of performing secondary and tertiary treatment. Its ability to reduce biochemical oxygen demand (BOD₅), total suspended solids (TSS), nitrogen and phosphorus makes Lotus-ActiveCell an effective solution to a variety of regulatory treatment standards.

In a Lotus-ActiveCell MBBR, microorganisms attach themselves to submerged moving plastic media, forming a biofilm. Air is transferred into the water, mixing the media and providing oxygen to the bacteria. The biofilm absorbs, oxidizes and reduces organic and inorganic material thus providing treatment.

Hydroxyl's ActiveCell450™ Biofilm Carrier (media) is the core technology behind the Lotus process. It's excellent oxygen transfer characteristics and large biofilm attachment area enable compact efficient designs. Lotus-ActiveCell is available in a variety of materials and tank geometries. Reactors can be constructed of stainless steel, fiberglass or concrete and can be installed above or in-ground. The systems are custom designed to fit the specific requirements of your site.

Lotus-ActiveCell is easy to install, cost effective to operate and requires minimal maintenance. In attached growth MBBRs, the concentration of bacteria in the biofilm is self regulating and produces minimal sludge. These characteristics eliminate the need to actively manage mixed liquor suspended solids (MLSS), food to mass (F/M) ratios and return activated sludge (RAS).

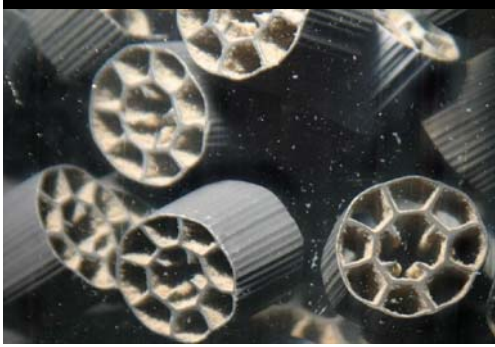


A 320,000 gpd Lotus-ActiveCell WWTP for 1,250 homes and A commercial downtown area. Effluent is reused for irrigation.

FEATURES & BENEFITS

- Treats flows from 1,000 gpd to 2 MGD
- Small footprint / compact design
- Extreme climate capability
- Above ground or in ground installation
- Stainless steel, fiberglass or concrete treatment vessels
- Treats high strength wastewater
- Minimal O&M requirements
- Retrofits and new designs
- Modular and expandable design enables phased construction
- Internal gravity flow system
- Quiet operation
- Nitrification / Denitrification / BNR
- Self regulating biological filter
- Remote monitoring control options

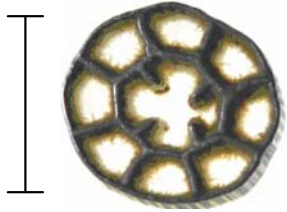
ActiveCell450™ Biofilm Carriers



Stainless steel aeration grids



Stainless steel retention screens



22 mm

HYDROXYL - ActiveCell450™ Biofilm Carriers are constructed of UV resistant HDPE plastic giving them durability and a long life span regardless of the application. Their neutral buoyancy in water is critical to effective mixing within a reactor and ultimately provides an increase in treatment efficiency. *ActiveCell450 Biofilm Carriers* have a large internal protected surface area for biological growth. The apertures are engineered to allow for adequate scouring velocities and sloughing before biological bulking occurs.

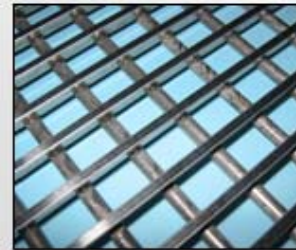
Lotus Multi-Stage Treatment: BOD₅ removal, nitrification and denitrification processes require different microbial communities. Thus, Lotus-ActiveCell reactors are designed with multiple stages and chambers depending on the level of treatment that is required. Aerobic stages rely on the transfer of oxygen not only for treatment but to effectively mix the media, water and organic material. Other stages implement processes that take place in the absence of oxygen (anoxic denitrification). In these stages the media and water are mixed mechanically.

ActiveCell450™ Biofilm Carriers

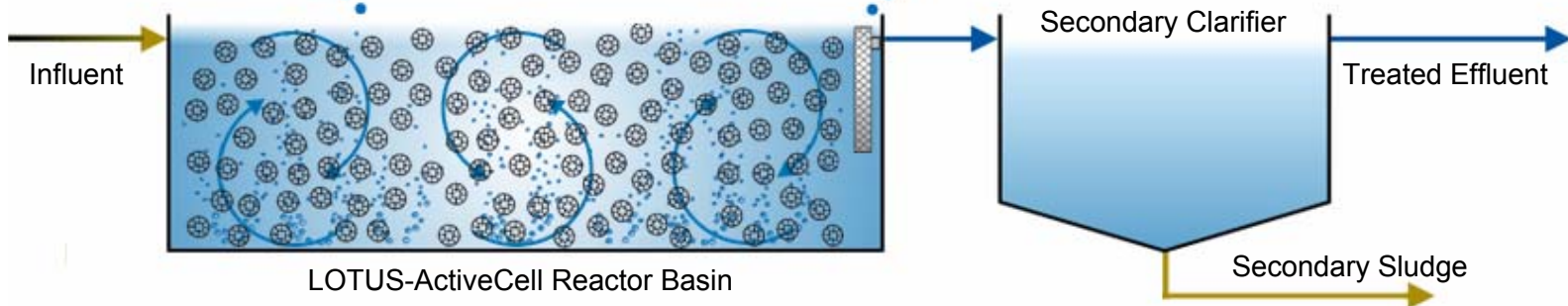


The free-floating *ActiveCell 450 Biofilm Carriers* are constantly in motion and mixing in the basin as air compressors and stainless steel aeration grids ensure a uniform distribution of oxygen into the base of the reactor.

Media Retention Screens



Cylindrical stainless steel wedgewire screens are installed vertically or horizontally to retain the free-floating media within the biological reactor.



Represented by:

Technical representation throughout the United States

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