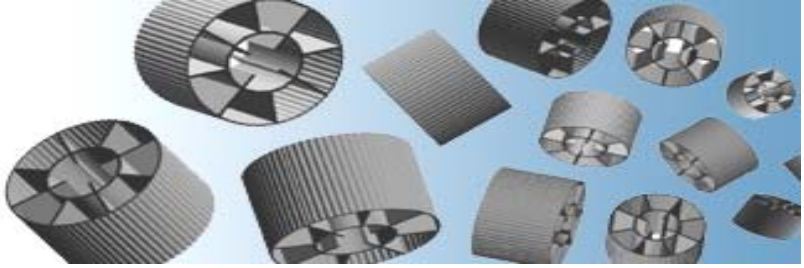
AquaPoint™

Performance Based Wastewater Treatment Solutions



LOTUS™ - ActiveCell™

An Aquapoint / Hydroxyl Technology

THE LOTUS-*ActiveCell* ADVANTAGE:
Lotus is a state of the art fluidized fixed-film reactor technology capable of performing secondary and tertiary treatment. Its ability to reduce biochemical oxygen demand (BOD_5), total suspended solids (TSS), nitrogen and phosphorus makes Lotus an effective solution to a variety of regulatory treatment standards.

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

Hydroxyl - ActiveCell media is the core technology behind the Lotus process. It's excellent oxygen transfer and large biofilm attachment area enable compact designs. A variety of containerization options and tank geometries are available with Lotus. Reactors can be constructed of stainless steel, fiberglass or concrete and can be designed for above ground and in-ground installations. The systems are custom designed to fit the specific requirements of your site.

Lotus is easy to install, cost effective to operate and requires minimal maintenance. In attached growth reactors, 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 ratios and return activated sludge (RAS).

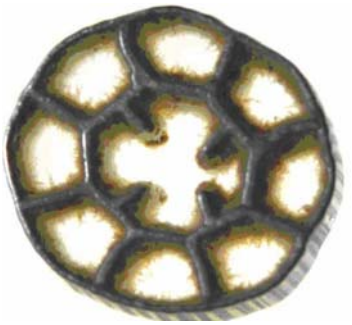
FEATURES & BENEFITS

- Treats flows from 1,000 gpd to municipal systems
- Small footprint / compact design
- Extreme climate capability
- Above ground or in ground installation
- Stainless steel, fiberglass or concrete containers/basins
- High strength waste treatment capability
- Minimal O&M requirements
- Retrofit and new design capability
- Modular and expandable design enables phased construction
- Internal gravity flow system
- Nitrification / De-nitrification / BNR
- Self regulating biological filter
- Remote monitoring and telemetry capability


Submerged *ActiveCell* media


Stainless steel aeration grids


Stainless steel media retention screen



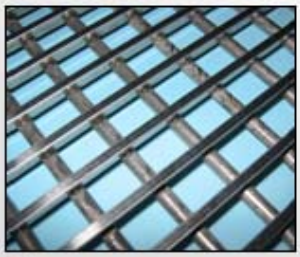
Hydroxyl - *ActiveCell* media is constructed of UV resistant polyethylene plastic giving it durability and a long life span regardless of the application. Its neutral buoyancy in water is critical to effective mixing of the reactor basin and ultimately provides an increase in treatment efficiency. *ActiveCell* media has a large internal protected surface area for biological growth. Its apertures are engineered to allow for adequate scouring velocities and sloughing before biological bulking occurs.

Lotus Multi-stage treatment: BOD_5 removal, nitrification and denitrification processes require different microbial communities. Thus, Lotus 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 may implement processes that take place in the absence of oxygen (anoxic denitrification). In these stages the media and water will be mixed mechanically not aerated.

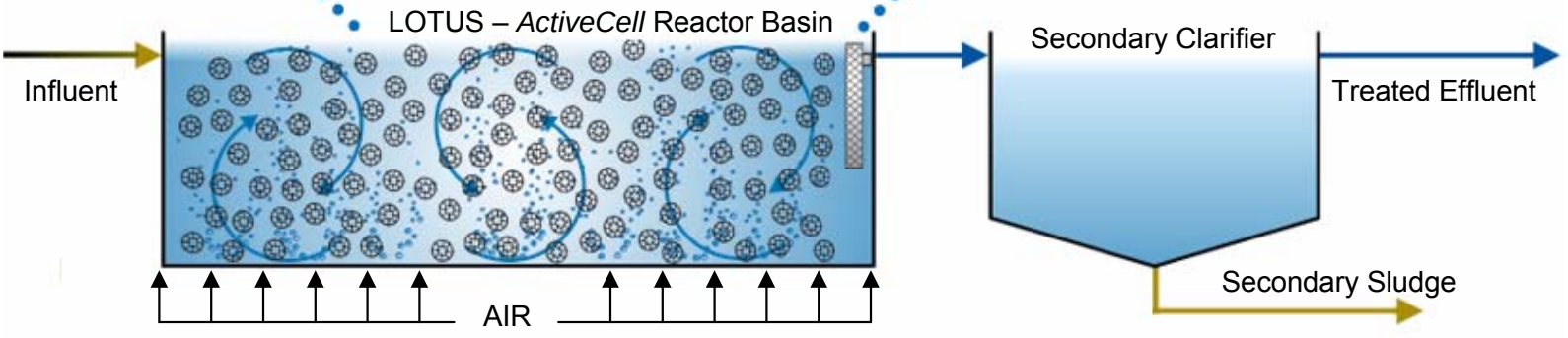
HYDROXYL – ActiveCell MEDIA

The free-floating *ActiveCell* media is 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 RETAINING SCREENS



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



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