



Biolac® basins with rectangular, flat bottom clarifiers



# Biolac® Wave Oxidation System

## Biological Nutrient Removal

Biological Nutrient Removal (BNR) is simplified and affordable with the Biolac® Wave Oxidation process. Simple control of the air flow distribution to the Biolac®'s moving aeration chains varies the basin dissolved oxygen content by creating a unique moving wave of multiple oxic and anoxic zones. This repeated cycling of environments nitrifies and denitrifies the wastewater without recycle pumping or additional external basins. Nitrogen removal to 8 mg/L is standard, with many installations achieving <3-4 mg/L Total N.

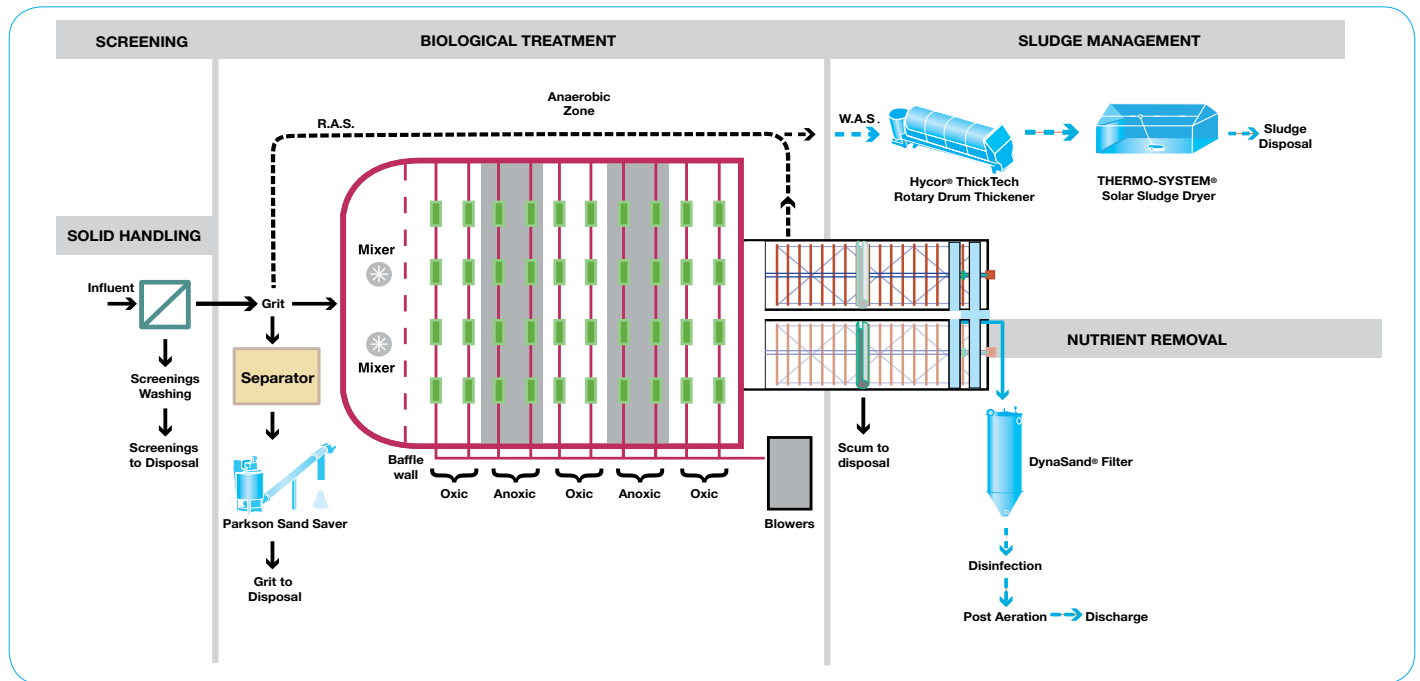
Biological phosphorus removal can also be accomplished by incorporating an anaerobic zone or Bio-P zone. With the Bio-P zone, phosphorus levels of <2 mg/L are standard. The Biolac® Wastewater Treatment System is an activated sludge process utilizing a longer sludge age that reduces BOD to <10 mg/L and produces complete nitrification. The system is extremely stable and able to treat widely fluctuating loads with few operating changes. Fine bubble diffuser assemblies

are suspended above the basin floor by the BioFlex moving aeration chains.

The motion of the chains and diffusers distributes the oxygen transfer and mixing energy evenly throughout the basin. Depending on customer preference and budget considerations, Biolac® systems can be installed in concrete basins or lined earthen basins.



# Biolac® System Operating in Wave Oxidation Mode



## Expandable Systems

Parkson combines the best biological and filtration technologies into an enhanced nutrient removal system that will meet or exceed any mandated effluent quality. There is no effluent requirement too tough for this process. If nitrogen and phosphorus removal requirements become more stringent, Parkson can expand your Biolac® Wave Oxidation system to meet those requirements. The addition of a DynaSand® filter to polish the Biolac® Wave Oxidation System effluent will reduce nitrate nitrogen to <math><1\text{ mg/L}</math> and phosphorus to <math><0.1\text{ mg/L}</math>. Dual phase filtration in the DynaSand D2® System can reduce phosphorus to <math><0.03\text{ mg/L}</math>.

Building a total wastewater treatment plant around the Biolac® system ensures a versatile, expandable facility from influent screening to final discharge.

## Features

- BNR in a single basin
- Multiple treatment zones
- Reduced energy consumption
- High quality effluent
- Affordable price

## Benefits

- Guaranteed process results
- 90+% total nutrient removal
- 25-30% lower energy costs
- Minimal operator attention
- Simple, low-cost construction
- Available as lined earthen basins and concrete basins
- No internal MLSS recycle required
- Alkalinity recovery



Fort Lauderdale  
Chicago  
Montreal  
Dubai  
Mumbai

1.888.PARKSON  
[technology@parkson.com](mailto:technology@parkson.com)  
[www.parkson.com](http://www.parkson.com)