

• Superior Solids Removal • Excellent Biofiltration • Automatic Backwashes • Low Water Loss • Air Operated •

WASTEWATER CLARIFICATION

Process Improvement through Superior Solids Capture



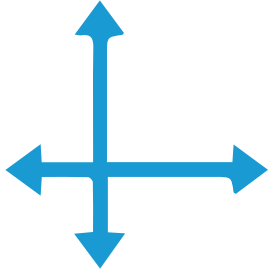
Series of High Flow Propeller Bead[®] Filters used for solids removal

OUR MISSION:

Our goal is to use our cost-effective, small footprint filters to meet your needs by improving your process, treating your wastewater, and keeping you in compliance.

Throughout all of the different industries we serve, our focus is clear: to provide technologically advanced filters and excellent service. We accomplish our focus through our commitment to our R&D program and customer support structure that integrates all of our departments.

Throughout the process of finding the right filter for you, from the initial meetings, through the design of the filters, installation, startup and operation, our team will be there to support. We believe that every process is unique and therefore requires the attention to detail that offers our customers the best solution for their needs.



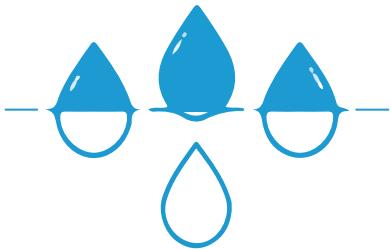
MINIMAL FOOTPRINT

Smaller pumps paired with an efficient design save space in both small and large volume applications.



COST EFFECTIVE

AST filters cost less than traditional filters. Plus, save on costly fines by ensuring EPA standards are met.



SUPERIOR CLARIFICATION

AST filters remove 100% of particles greater than 50 microns and 48% of particles in the 5-10 micron range per pass.



HANDS OFF OPERATION

Filter backwashing is automated with no mechanical moving parts for quick and easy maintenance.



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Wastewater Process Consolidation

Traditional Treatment Train



AST's Consolidated Treatment Train



Consolidate Wastewater Processes

Bead filters can be used as bioclarifiers in wastewater treatment to replace biological treatment as well as secondary and tertiary clarifiers.

By consolidating operations within traditional treatment trains, bead filters achieve superior solids capture plus biofiltration in a smaller footprint.

INDUSTRY LEADING WATER FILTRATION

Floating Bead Filters or Static Low Density Media Filters have been used for the past 25 years to replace clarifiers, sedimentation basins, and sand filters. Since the first filter was used to replace a sand filter in the aquaculture industry, our filters have been used in a number of industry's to improve process operations, remove solids, improve wastewater quality, and reduce water loss all with low head loss and lower operating costs. The filters have been used as primary and secondary clarifiers, tertiary polishers for solids and nitrification, ground water remediation, municipal and industrial water reuse projects.

Our filters come in many standard sizes or our experienced engineers can help design the perfect solution to meet your needs.

DESIGN PHILOSOPHY:

Combine - Consolidated Unit Operations & Processes combine biofiltration and clarification

Simplify – few or no moving parts

Stabilize – minimization of the probability of failure

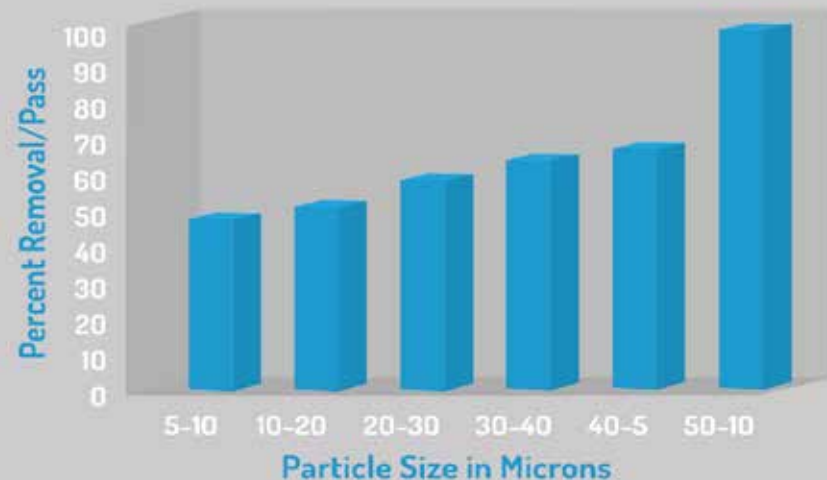
Economize – the above strengths lead to low startup and O&M costs

Remove More Solids, Faster

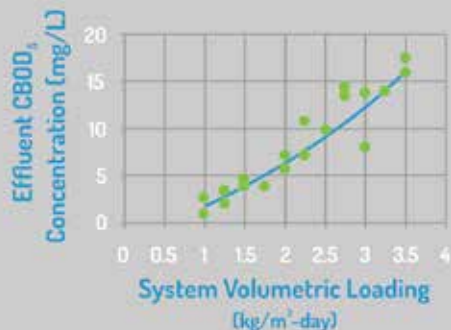
All of our filters have a higher flux rate at 28,000 GPD/ft² compared to traditional clarifiers or sedimentation basins that have a flux rate of around 800 – 1,200 GPD/ft². This flux rate allows our filters to have a much smaller footprint and thus fit into more applications or retrofit into your process for improved performance.

The filters also have far superior solids capture ability with nearly 100% of particles 30 microns or larger removed and can remove 50% of particles in the 5-10 micron range. The efficiency of our solids captured combined with our small footprint allows our filters to be compatible with many applications from secondary and tertiary treatment, to removing particulates from process water, prior to membrane filters to reduce filter operation and maintenance costs and many more industries and applications.

Single Pass Particle Size Removal Efficiency Using Standard Bead Media



Measured CBOD₅ as a Function of System Volumetric Loading



Biological Filtration for even cleaner water

Our units also function effectively as a fixed film bioreactor. With proven results greater than 3 Kg of BOD/m³ of biomedica, our filters are powerful units that can handle a large variety of wastewater applications and are totally resistant to biofouling. Pneumatic backwashing frequencies can be adjusted to prevent biofouling across a wide variety of mean cell resident times, thus, the unit can be use to attack readily digestible to refractory organics across a wide variety of industrial, agricultural, and domestic applications.

