



# PRODUCT PROFILE

PURE INNOVATION. ADVANCED FILTRATION.



## Leading U.S. Provider of Bead Filter Solutions for Wastewater Applications

MUNICIPAL | INDUSTRIAL | AGRICULTURAL

With more than **30 years of experience**, our team members are experts at engineering and manufacturing advanced water filtration solutions for various applications. From a simple filter to a complete custom system, AST manufactures a wide range of filters utilizing our **Patented Bead Filter Technology**.

Our unique system focuses on simplification of treatment and consolidation of unit operations, combining both mechanical and biological filtration into one package.

### OUR FILTERS

RECIRCULATING  
POLYGEYSER (RCPG)

HIGH PROFILE  
POLYGEYSER (HPPG)

## PURE INNOVATION. ADVANCED FILTRATION.



Our engineers can help you find the perfect filtration system to fit your needs. **Give us a call today at 1.866.316.5414 or scan the QR code and send us a message.**

## WHY AST PRODUCTS?



REDUCE  
OPERATING COST



CUT SURCHARGES  
AND STAY IN  
COMPLIANCE



MODULAR  
APPROACH



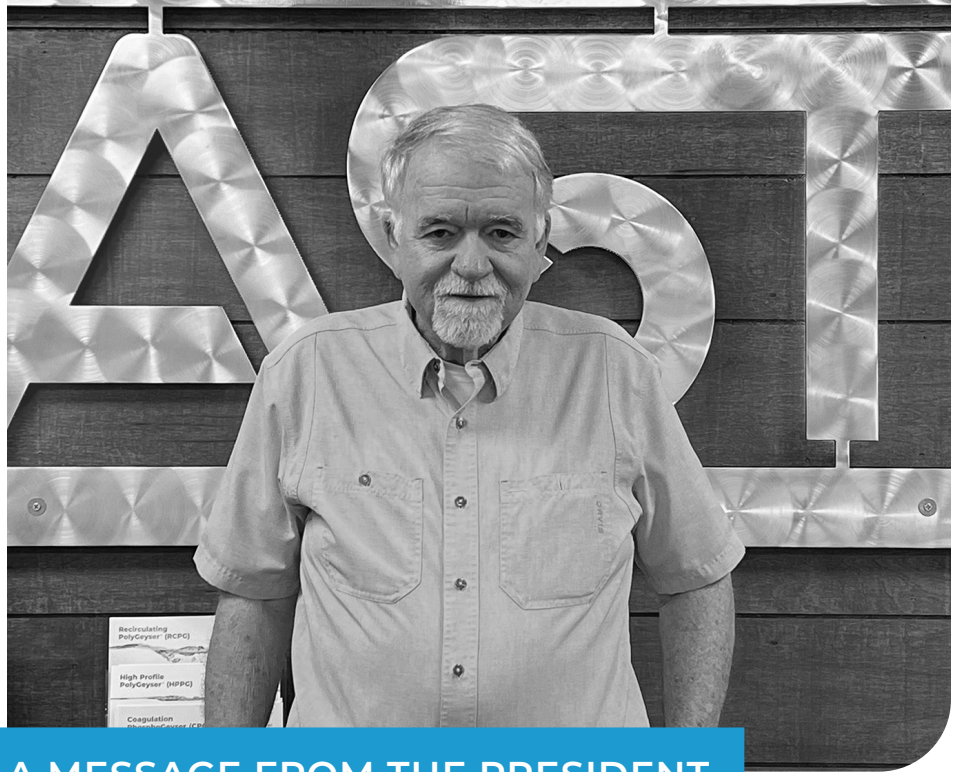
SEAMLESS  
INTEGRATION



SMALL  
FOOTPRINT



ENVIRONMENTAL  
IMPACT



### A MESSAGE FROM THE PRESIDENT

*AST's Bead Filter Technology was first developed at Louisiana State University's Civil and Environmental Aquatics Systems Laboratory in the early 1990s by Dr. Ron Malone, who now serves as AST's President and Chief Technology Officer.*

AST's story began in 1993 with a mission to solve water filtration challenges faced by early aquaculture pioneers. These innovators needed systems that ensured superior water quality, reliability, energy efficiency, and cost-effectiveness for their on-land fish tanks. After conducting extensive research and securing innovative technology grants, we refined our technology and entered the aquatic animal support market, serving sectors like zoos, seafood distribution, and aquaponics.

Building on our initial success, we broadened our research to wastewater treatment, identifying a gap in the market for filters capable of simultaneously managing suspended solids, BOD, and ammonia. We developed a unique solution: stainless steel units that streamline the treatment process into a few steps, operating pneumatically without electronic controls or moving parts.

Today, over 30 years later, we find ourselves protecting aquatic life in natural waters. I'm proud to say that all our products are engineered, designed, and made in the USA.

**Dr. Ron Malone, PHD PE**  
*President and Chief Technology Officer*



Regardless of the industry, AST's goal is to provide a treatment solution that is **innovative, cost-effective, and reliable** to its customers to help keep them in compliance and assure their water quality goals are met.

*- Rhine Perrin, PE Chief of Engineering*

# OUR PRODUCTS

## Recirculating PolyGeyser (RCPG)



### SIMULTANEOUS BIOLOGICAL AND MECHANICAL FILTRATION

The Recirculating PolyGeyser is designed to provide both biological and mechanical filtration simultaneously. Geared to tackle a wide range of BOD, TSS, and ammonia loadings, the Recirculating PolyGeyser can treat the toughest waste streams and meet the strictest discharge limits.

### BENEFITS

- Eliminates surcharges
- Meets stricter discharge limits
- Reduces water and power usage
- Offers a return on investment within 1-5 years
- Provides internal recirculation and aeration to treat multiple containments

### COMPETITIVE ADVANTAGE

	AST RCPG	Sand Filter	DAF	Drum Screen	MBBR	Trickling Filter	RBC	RAS System
Biological Treatment	●	○	○	○	●	●	●	●
Solids Treatment	●	●	●	●	○	○	○	●
No Biofouling	●	○	●	○	●	○	●	●
No Water Loss	●	○	●	○	●	●	●	●
No Chemical Addition	●	●	○	●	●	●	●	●
Consolidated Footprint	●	○	○	○	○	○	○	○
Simple Installation	●	●	●	●	●	○	○	○

### UNIT SIZES

Model	Volume Treated (GPD)*	Dimensions	Blower Size**
RCPG-10	1,000-10,000	49"x72"x63"	1HP
RCPG-25	5,000-30,000	70"x78"x84"	5HP
RCPG-50	10,000-50,000	128"x78"x84"	7.5HP
RCPG-100	20,000-100,000	180"x100"x97"	7.5HP (x2)
RCPG-200	30,000-150,000	229"x114"x97"	10HP (x2)
RCPG-250	40,000-200,000	159"x165"x135"	15 HP
RCPG-500	50,000-250,000	313"x165"x135"	15 HP

\* Daily volume treated based on typical contaminate concentrations and effluent qualities; Treatment flow is dependent on loading and will vary system to system.  
\*\* Blower size may vary by application.

## High Profile PolyGeyser (HPPG)



### AGGRESSIVE SOLIDS CONTROL AND BIOLOGICAL TREATMENT

The High Profile PolyGeyser is capable of handling high solids concentrations (TSS) while still removing fine particulate. Simultaneously the unit functions as a biological filter and can be configured for ammonia, soluble BOD, and anoxic denitrification treatments.

### BENEFITS

- Ensures environmental compliance
- Controls nutrient concentrations
- Delivers superior solids filtration and total nitrogen control
- Offers a fast return on investment

### COMPETITIVE ADVANTAGE

	AST HPPG	Sand Filter	DAF	Drum Screen	MBBR	Trickling Filter	RBC	RAS System
Biological Treatment	●	○	○	○	●	●	●	●
Solids Treatment	●	●	●	●	○	○	○	●
No Biofouling	●	○	●	○	●	○	●	●
No Water Loss	●	○	●	○	●	●	●	●
No Chemical Addition	●	●	○	●	●	●	●	●
Consolidated Footprint	●	○	○	○	○	○	○	○
Simple Installation	●	●	●	●	●	○	○	○

### UNIT SIZES

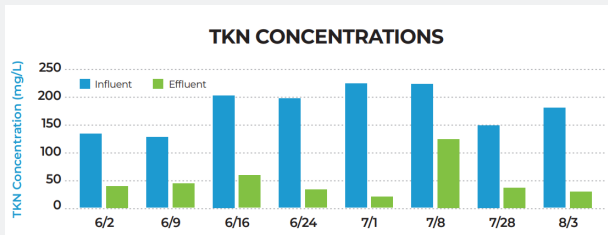
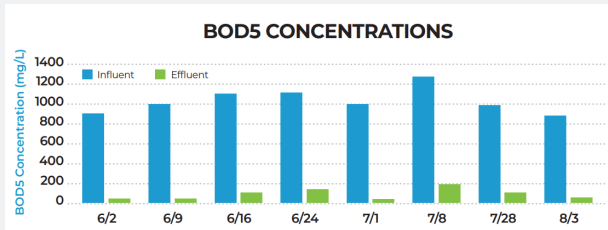
Model	Media Volume (ft <sup>3</sup> )	Operating Weight	Diameter	Height	Max Flow Rate (GPM)
HPPG-10	10	2,700	40.25"	84"	150
HPPG-15	15	4,200	48"	90"	225
HPPG-25	25	6,300	59"	104"	375
HPPG-50	50	13,400	85"	114"	750
HPPG-100	100	24,500	84"	150"	1500
HPPG-300	300	100,000	160"	208"	4500

# RCPG CASE STUDIES

## Poultry Processing Plant

### GAINESVILLE, GEORGIA

Wastewater produced at a poultry processing facility in Georgia contained high concentrations of BOD and TKN. The situation required the facility to pay the local municipality surcharges for high strength wastewater, with pending action to curtail or stop production.



#### The Problem:

A poultry processing facility in the southeast was discharging wastewater that exceeded violation limits for TKN and BOD. The municipality receiving its wastewater gave the facility two options: either get their wastewater below violation limits, or throttle back production.

#### The Solution:

The company commissioned an AST pilot study using two 10 ft<sup>3</sup> Recirculating PolyGeysers (RCPG-10) operated in series to reduce TKN and BOD concentrations of wastewater discharging from the facility to a level below violation limits.

#### The Results:

The AST treatment system averaged 90% reduction in BOD and 76% reduction in TKN. The study proved the technology was not only capable of bringing the facility back in compliance but also, on average, reducing the concentrations below surcharge limits. The poultry processing facility won municipal approval for the technology.

## Lagoon Polishing

### PELAHATCHIE, MISSISSIPPI

#### The Problem:

The facultative lagoon faced tight discharge standards. These standards were imposed on rural lagoons that could not afford traditional mechanical plants.

#### The Solution:

AST recommended an RCPG-10 Pilot to polish the treated lagoon effluent down to pristine quality.

#### The Results:

After Implementing AST's RCPG-10 Pilot recommendation, this facility met the required discharge criteria for ammonia, BOD, and TSS.

#### SUMMARY OF PELAHATCHIE RESULTS

Constituent	Influent (mg/L)	Effluent (mg/L)
Ammonia	4.9 ± 2.9; n=82	0.5 ± 0.49
Tot. CBOD	10.9 ± 3; n=82	4.1 ± 1.8
Sol. CBOD	10.9 ± 3; n=82	2.4 ± 0.7
TSS	27.1 ± 29.6; n=82	16.1 ± 15.3

### MORGAN, GEORGIA

#### The Problem:

The wastewater lagoon in Morgan, GA is the primary treatment site for the Calhoun County State Prison.

#### The Solution:

AST provided a RCPG 10 pilot unit for testing. This unit contained 10 ft<sup>3</sup> of our Enhanced Nitrification (EN) media.

#### The Results:

AST's RCPG filter model lines are very efficient at mechanically and biologically filtering a wide variety of waste streams.

#### SUMMARY OF MORGAN RESULTS

Constituent	Influent (mg/L)	Effluent (mg/L)
Ammonia (n=45)	11.5 ± 3.9	0.71 ± 2.7
CBOD (n=33)	19.06 ± 9.7	5.6 ± 4.8
BOD (n=10)	42.5 ± 11.4	9.9 ± 4.6
TSS (n=40)	20.7 ± 8.7	8.2 ± 4.7



**Please contact us if you have any questions about our products or services.**

Phone: 1.866.647.0467  
Fax: 504.837.5585

**OFFICES:**

**Baton Rouge Office**  
2120 North 3rd Street  
Baton Rouge, LA 70802

**Western Regional Office**  
Colorado Technical Center  
685 South Arthur Ave. Suite 4  
Louisville, CO 80027

Download our RCPG PDF.



Scan here to learn more about HPPG.



Download our full Case Study Library.



CONNECT ON:



ASTFILTERS.COM