

AdvanTex® Treatment Systems
AX1000

Manufactured by **Orenco Systems**®, Inc.



**Decentralized Wastewater Treatment
for Commercial Properties and Communities**



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Applications:

- Municipal systems
- Subdivisions, apartments
- Golf course developments, resorts
- Manufactured home parks
- Parks, RV parks, campgrounds
- Schools, churches, businesses
- Rest areas, truck stops

AdvanTex® AX100 Treatment System



Textile Media

The treatment media is a uniform, engineered textile, which is easily serviceable and allows significantly higher loading rates than traditional recirculating gravel or sand filters.



Effluent Distribution

The treatment media is microdosed at regular intervals by high-quality, low horsepower pumps. Proprietary spin nozzles distribute the effluent efficiently, optimizing treatment.



Laterals and Lids

Isolation valves, flushing valves, and hinged lids with gas springs allow easy access and servicing by a single operator.



Telemetry Controls

Orenco's telemetry-enabled control panels use a dedicated phone line, internet connection, or cellular data connectivity for round-the-clock system supervision and real-time remote control.

The Product

Orenco's patented* AdvanTex® Treatment Systems can make raw wastewater up to 98% cleaner¹, meeting stringent regulatory requirements. They can also reduce nitrogen significantly, depending on influent and configuration. Orenco's commercial-sized (AX100) AdvanTex Systems offer all the benefits of Orenco's residential line:

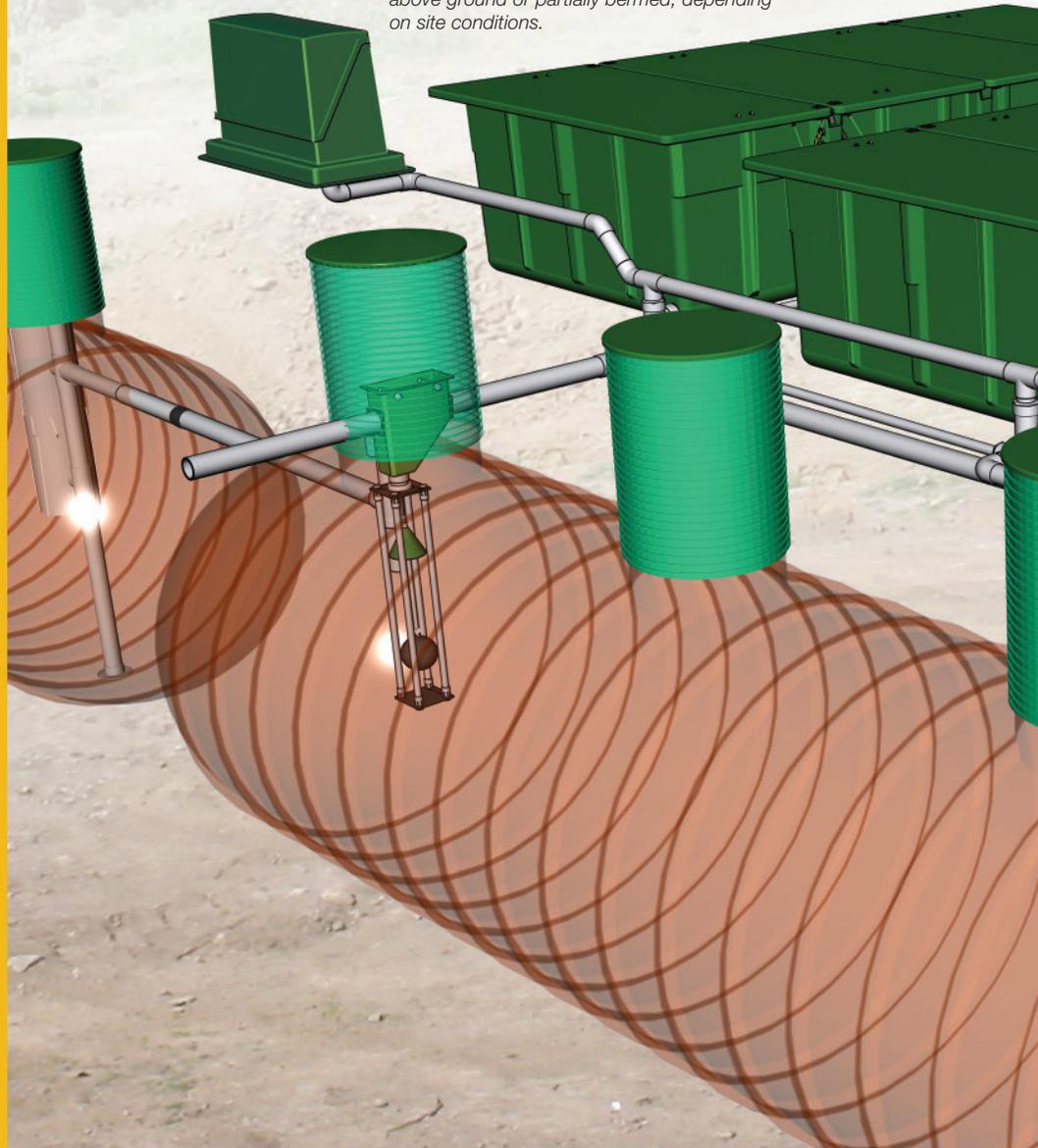
- Consistent, reliable treatment, even under peak flows
- Compact package, small footprint for small sites
- Premanufactured package, including textile media, for quality control
- Low maintenance requirements, low power use (<2 kWh per 1000 treated gallons)
- Low life-cycle costs
- Production of clear effluent that's ideal for reuse

AdvanTex Treatment Systems for supplemental BOD and ammonia reduction are also available. (www.orenco.com/systems/nitrogen_reduction.cfm)

¹. NSF® International Standard 40 Evaluation Report, April 2002. (Evaluation performed by NovaTec Consultants, Inc.)

Sample System Layout:

Tanks are buried. AX100 filter pods can be installed above ground or partially bermed, depending on site conditions.



AdvanTex[®] AX100 Treatment System

Decades of Research, Thousands of Installations

Orenco's AdvanTex recirculating filter unit is configured like a recirculating sand filter — a packed-bed filter technology that Orenco engineers have helped to perfect since the 1970s. Like recirculating sand filters, AdvanTex is reliable and low-maintenance. It is superior to other packed-bed filters, however, in its serviceability and longevity.

It is also superior in its treatment media. AdvanTex uses a highly efficient, lightweight textile that has a large surface area, lots of void space, and a high degree of water-holding capacity.

Consequently, AdvanTex Treatment Systems can provide treatment equivalent to that of sand filters at loading rates as high as 25-50 gpd/ft² (1000-2000 L/d/m²). That means AdvanTex can treat high-volume commercial and multi-family flows in a very compact space.

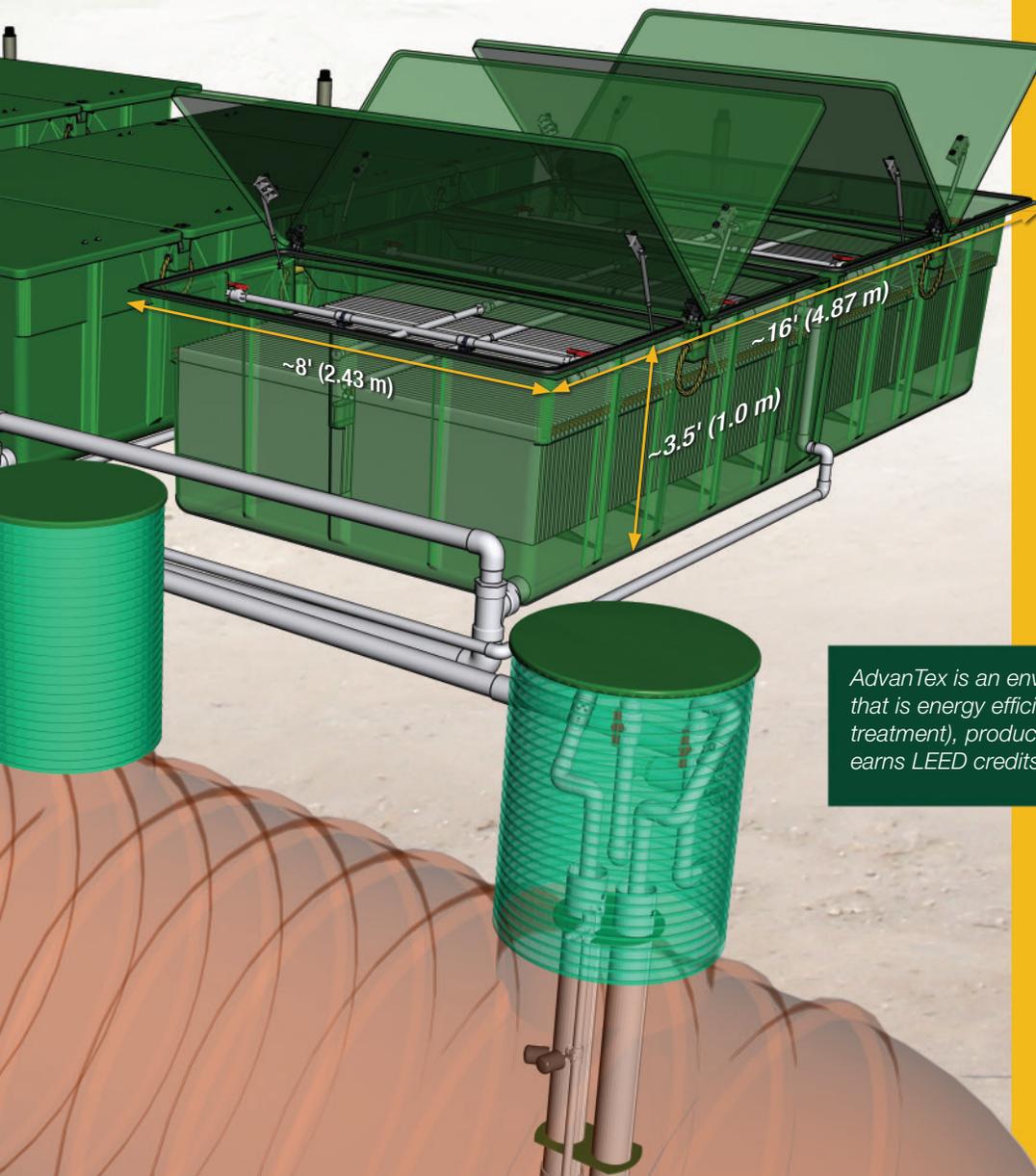
Our textile-based, multi-pass treatment technology has undergone third-party testing and evaluation to ANSI Standards. About 30,000 residential-sized AdvanTex filters have been installed since 2000. And about 3,000 commercial-sized AX100 units are now in operation, including the installations described on the back page.

The Program

It takes more than a good product to solve on-site wastewater problems. It takes a comprehensive program ... one that ensures a successful project every time and provides support for the life of the system. That's what Orenco Systems[®] has done. We've engineered a program, not just a product.

Orenco's commercial **AdvanTex** program includes ...

- Authorized Dealers; trained Installers and Operators
- Training and plan reviews for Designers
- A comprehensive project checklist for successful system design, installation, start-up, and follow-up
- Round-the-clock system supervision via Orenco's remote telemetry controls
- Web-based tracking of site and performance data on Dealer extranet
- Ongoing manufacturer support through Orenco's Sales/Engineering Department
- Asset Management advice from dedicated post-sales Account Managers
- 3-year manufacturer's warranty



AdvanTex is an environmentally sound wastewater solution that is energy efficient (<2 kWh/1000 gal. for secondary treatment), produces reuse quality effluent, and earns LEED credits for your projects.

* NOTE:
Covered by U.S. patent numbers 6,540,920; 6,372,137

AdvanTex® AX100 Treatment System

Carefully Engineered by Orenco

Orenco Systems has been researching, designing, manufacturing, and selling leading-edge products for decentralized wastewater treatment systems since 1981. The company has grown to become an industry leader, with about 300 employees and 300 points of distribution in North America, Australasia, Europe, Africa, and Southwest Asia. Our systems have been installed in more than 70 countries around the world.

Orenco maintains an environmental lab and employs dozens of civil, electrical, mechanical, and manufacturing engineers, as well as wastewater treatment system operators. Orenco's technologies are based on sound scientific principles of chemistry, biology, mechanical structure, and hydraulics. As a result, our research appears in numerous publications and our engineers are regularly asked to give workshops and trainings.



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Malibu Restaurant and Residential Development

Ten AX100s at the top of a Malibu bluff are treating high-strength waste from a large (200+ seat) beachfront restaurant, 100 feet (30 m) below. This high-visibility tourist destination requires reliable, odor-free operation. Effluent sampling indicates excellent treatment, including nitrogen reduction. At an adjacent residential community, another system has been installed, consisting of 20 AX100s capable of treating up to 60,000 gpd (227,000 L/d) peak flows.

Mobile, Alabama Utility-Managed Subdivisions

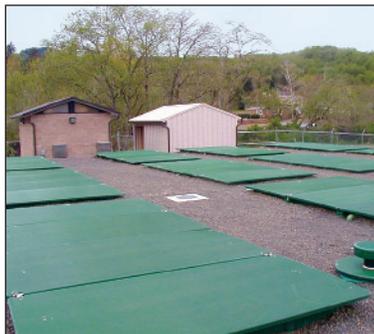
Since 2003, South Alabama Utilities (SAU) in Mobile County, Alabama, has become the subject of nationwide classes, presentations, and tours because of its ambitious and innovative solution for serving nearly 4,000 new customers in 47 new subdivisions in western Mobile County (as well as a number of new schools and commercial properties). How? By installing more than 60



Champion Hills is one of the many subdivisions in rural Mobile County served by Orenco's effluent sewers and treatment systems.

miles (96.5 km) of interconnected Orenco Effluent Sewers that are followed by 141 AdvanTex AX100s located at 13 different treatment sites. All told, SAU has the capacity to treat nearly half a million gpd (1.9 million L/d) of effluent, at better than 10 mg/L BOD/TSS.

Under SAU's program, developers, builders, homeowners, and the utility all share the cost of extending wastewater infrastructure. Costs vary by development, but SAU currently charges homeowners about \$35-40/month for service. Overall costs are about half the cost of conventional sewers.



Oregon Riverside Community

Since 2003, twelve AX100s have been providing advanced secondary wastewater treatment in Hebo, Oregon, for a small community collection system that discharges directly into Three Rivers, after UV disinfection. The average annual design flow is 17,000 gpd (64,400 L/d), with a peak daily design flow of 80,000 gpd (303,000 L/d) to account for I&I contributions from the collection system. Effluent cBOD₅ and TSS have averaged 4.2 and 3.3 mg/L, respectively.*

** Samples collected and analyzed by a third party between 1-17-03 and 6-1-11.*

To order a complete design/engineering package for Orenco's Commercial AdvanTex Treatment Systems, contact your local Commercial AdvanTex Dealer. To find a Commercial Dealer, go to www.orenco.com/systems and click on "Locate a Dealer." Or call 800-348-9843 and ask for a systems engineer.