

AdvanTex[®] Treatment Systems

AX20

Manufactured by **Orenco Systems**[®], Inc



Residential and Small Commercial Applications

- Single-family homes
- Small commercial properties
- New construction, repairs
- Tight lots, other site constraints
- Poor soils, shallow bury
- Stringent permit requirements
- Nitrogen reduction, disinfection
- Surface discharge

RELIABLE, ENERGY-EFFICIENT
WASTEWATER TREATMENT

AdvanTex AX20 Treatment System



A Sustainable Technology

In the AdvanTex Treatment System, household sewage flows into the processing tank, where it separates into scum, sludge, and liquid effluent. Filtered effluent is dosed to the AdvanTex filter unit, where it trickles through sheets of a synthetic textile. There, naturally occurring micro-organisms remove impurities from the effluent. After recirculating between the tank and the AdvanTex filter, the effluent is discharged to the soil via irrigation or a drainfield.

The system's pump runs only a few minutes an hour, using just a few cents' worth of electricity a day.¹

Because solids decompose in the tank, the tank requires pumping only every 8–12 years, under normal use.² Using little energy, generating a minimum of sludge, and purifying wastewater for beneficial reuse, AdvanTex Systems are one of the most environmentally sustainable technologies for home wastewater treatment.

More than 53,000 of Orenco's textile filters have been installed at homes, businesses, and community treatment systems around the world. Third-party testing shows that AdvanTex Treatment Systems beat out the competition when it comes to treating wastewater. And field testing shows that AdvanTex Treatment Systems work under real-world conditions.³

¹ Maryland's "Bay Restoration Fund Ranking Documentation," <http://mde.maryland.gov/programs/Water/BayRestorationFund/OnsiteDisposalSystems/Documents/BAT%20Ranking%20Document.pdf>

² Terry R. Bounds, PE. 1995. "Septic Tank Septage Pumping Intervals." Sutherlin, Oregon: Orenco Systems, Inc., 13.

³ Environment Bay of Plenty, "Nitrogen reduction trials of advanced on-site effluent treatment systems," <https://www.boprc.govt.nz/media/33112/Report-2006-OSETrial1-2005-2006pdf.pdf>

textile filters

"The effluent from the filter units typically was clear with no odor ... The increased loading rate allows for a decrease in the footprint required by filter units (compared to sand and gravel filters) ... In an onsite treatment scenario, textile filter effluent could be utilized for landscape irrigation."

Leverenz, Darby, and Tchobanoglous, *Evaluation of Textile Filters for the Treatment of Septic Tank Effluent*, University of California at Davis, October 2000.

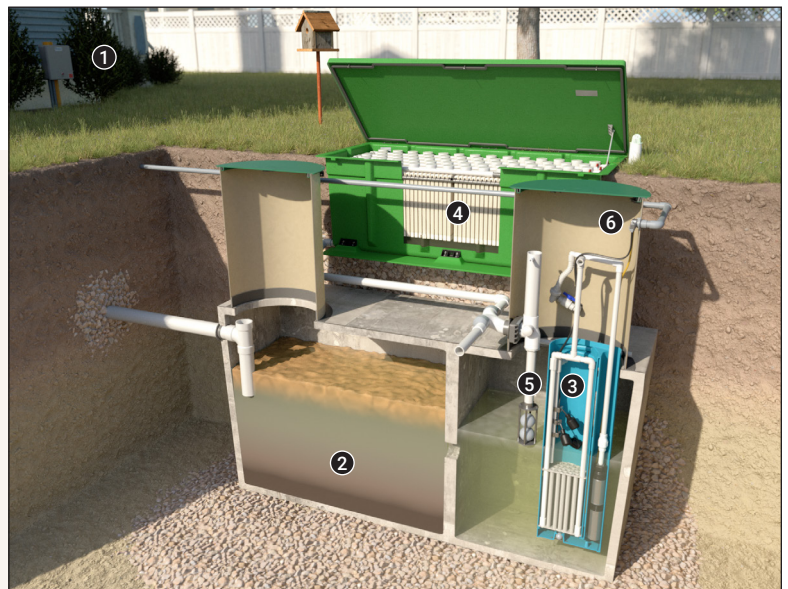
Typical backyard configuration of an AdvanTex Treatment System.

The system has six main functional parts:

1. VeriComm web-based monitoring system*
2. Processing tank
3. Biotube pumping package
4. AdvanTex filter
5. Recirculating splitter valve
6. ClickTight

* MVP digital programmable panels available as an option in some markets.

Other configurations and models available.



AdvanTex AX20 Treatment System

Finally! Residential Wastewater Treatment — That Works!

Orenco's AdvanTex Treatment Systems are the ideal solution for environmentally sustainable treatment of residential wastewater flows.

Outstanding Wastewater Treatment

Unlike other on-site wastewater treatment technologies, AdvanTex provides consistent, reliable treatment under real-world conditions. Other systems work okay in a controlled testing environment, but don't hold up to normal household use. AdvanTex does. AdvanTex Treatment Systems process and discharge small amounts of treated wastewater throughout the day. They produce effluent so clean it can be reused for drip or subsurface irrigation (subject to local regulations), or discharged to shallow, inconspicuous trenches.



Fits Small Yards

AdvanTex Treatment Systems require very little space. The filter unit is 7.5 ft x 3 ft x 2.5 ft (2.3 m x .9 m x .8 m), small enough to fit under a deck or on top of the processing tank. And some jurisdictions allow a reduction in drainfield area with AdvanTex. So AdvanTex is ideal for small sites, or for homeowners who simply want more use of their yard.

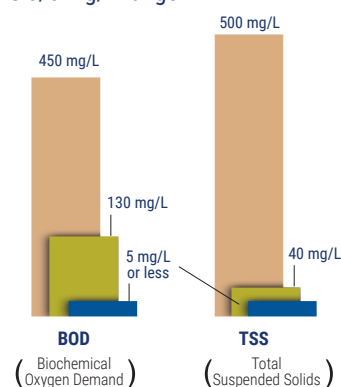
Low Maintenance

AdvanTex Treatment Systems are designed to be easily maintained with an annual service call, thanks to their accessible, cleanable filters and media. Plus, AdvanTex filters protect your drainfield, an asset that might just be irreplaceable.



Besides being compact, AdvanTex Treatment Systems are easy to operate and maintain. No power-hungry, noisy blowers. No activated sludge to manage or pump. No discharge of untreated sewage during peak flows or emergencies.

AdvanTex Treatment Systems make raw waste-water up to 98% cleaner ... consistently producing effluent in the 5/5 mg/L range.



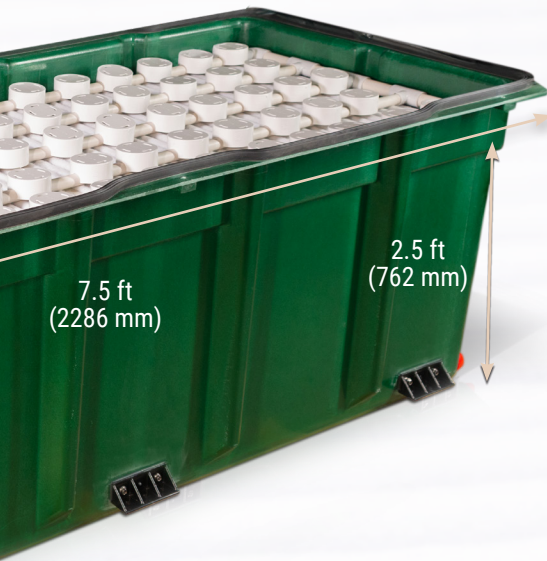
AdvanTex turns household wastewater into clear effluent you can reuse for subsurface irrigation (subject to local regulations).



1. Source: Derived from Small and Decentralized Wastewater Management Systems, Crites & Tchobanoglous, McGraw-Hill, 1998, p. 183.

2. Actual performance results, based on a six-month cumulative average from NSF International tests on the AX20N at 500 gpd (1900 L/d), using composite sampling.

AdvanTex AX20 Treatment System



AdvanTex Gives You Peace of Mind

Orenco's AdvanTex Treatment Systems aren't just a product. They're part of a comprehensive program, for homeowners' peace of mind.

Authorized Dealers and Trained Installers

AdvanTex Treatment Systems are sold by authorized dealers, who provide ongoing support and warranty service. Dealers ensure that AdvanTex Treatment Systems are set in place by trained installers, following Orenco's instructions.

Trained Service Providers

Like any on-site technology, your AdvanTex Treatment System benefits from regular maintenance by a trained service provider, following Orenco's instructions. Field maintenance report forms are digitally archived for future reference.

Complete, Carefully Engineered Package

Your AdvanTex Treatment System comes as a totally premanufactured package, including AdvanTex textile filter, Biotube® pumping package, and "smart" control panel with ClickTight™ wiring connection system. AdvanTex can be installed on most lots in less than a day.

Low Routine Maintenance Costs

AdvanTex Treatment Systems are easy to service and clean. Since maintenance is minimal, so are the long-term costs. Each system comes with a Homeowner's Manual, with tips for preventive maintenance. And all systems are sized to allow for a minimum of 24 hours of wastewater storage, at average daily flows. So operators can provide "emergency" service during normal working hours, keeping service costs down.

Low Power Costs

AdvanTex uses very little power ... about \$2.80 per month (based on an average cost of 16 cents per kilowatt-hour). Competing products use 2-5 times that much!¹

Service Provider Notifications

AdvanTex Treatment Systems equipped with VeriComm® Control Panels automatically notify service providers of irregular conditions.

Tamper-Resistant Lids

The lid of the AdvanTex filter is affixed with recessed bolts, making it very tamper resistant.

Warrantied Products

Orenco Systems, Inc., provides a limited, multiyear warranty on all materials and workmanship. The length of warranty varies by region, but is at least three years.



Round-the-Clock Monitoring

Your AdvanTex Treatment System may include a control panel with a remote telemetry unit and a round-the-clock, web-based monitoring system, supervised by your service provider. You'll have even more peace of mind, knowing that the VeriComm Monitoring System is continually and automatically verifying the operation of your system.

¹ Maryland's "Bay Restoration Fund Ranking Documentation," <http://mde.maryland.gov/programs/Water/BayRestorationFund/OnsiteDisposalSystems/Documents/BAT%20Ranking%20Document.pdf>

Reliable, Energy-Efficient **Wastewater Treatment**

For Every Residential Site

There's a standard AdvanTex Treatment System model for every site condition, design flow, and regulatory requirement.

AdvanTex Treatment Systems are particularly well suited for ...

- small sites
- environmentally sensitive sites
- failing systems
- stringent treatment standards
- poor soils
- pretreatment of moderately high-strength waste
- nitrogen reduction



Deschutes County, OR

"I specified an AdvanTex Treatment System for a cluster of 12 luxury homes in the Metolius River Resort, along a premier trout stream in eastern Oregon. AdvanTex worked well because the site has an extremely small footprint and the system was easy to install. Also, the treatment unit is right in front of the resort's office, so it was super important that there be absolutely no smell, and there isn't. Plus, we didn't have to search for the right treatment media, since it's all included. I would use AdvanTex any place you'd use a conventional recirculating filter."

Steve Wert, CPSS, WWS
Wert & Associates, Bend, Oregon

Tucson, AZ

"Nearly 1,000 AdvanTex Treatment Systems have been installed in Arizona, primarily due to poor soils, seasonal high water tables, and/or nitrogen in the groundwater. In Tucson, homeowners and their treatment system designers have also had to deal with limiting site constraints, shallow rock shelves, and small building envelopes. The AdvanTex system, followed by a subsurface drip system, was the answer. Plus, the installed systems go almost unnoticed in yards and landscaping."

Todd Christianson
Premier Environmental
Products, LLC



Alberta, Canada

"We've installed about 500 AdvanTex Treatment Systems for all sizes of homes, and, typically, the treated wastewater looks just like water. Our winter temperatures can be as low as -38° F (-39° C). In the middle of December, we started up an AdvanTex Treatment System on a 13,000 ft² (1200 m²) home that averages 1200 gpd (4500 L/d). Two weeks after start-up, the owners entertained 30 family members and guests for a full week. It worked great!"

Bruce Silvester, Onsite Specialties, Inc.

"It worked great!"

Newport, RI

"I spent six years looking for the right wastewater system for my second home, which is on a small island. Even with seasonal flows, our AdvanTex Treatment System is working great . . . so great, I decided to become a dealer! We entertain often, so we use a lot of water, but we've never had a problem. And the system was easy to transport and install."

Peter Kent
Atlantic Solutions, Ltd.



AdvanTex AX20 Treatment System



Your health is our priority. At Orenco Systems, we are committed to protecting the world's water.



AdvanTex® Treatment Systems are listed to NSF-ANSI Standards 40 and 245 for Class I Systems. Visit www.nsf.org to view our Certified Products.



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Carefully Engineered by Orenco

With a deep respect for the environment and a long tradition of innovative problem-solving, Orenco Systems designs and builds the world's best decentralized wastewater systems with pride in Southern Oregon. Our products help ensure the health and safety of people, neighborhoods, and communities everywhere by protecting the world's water.

We maintain an environmental lab and employ 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.

Founded in 1981, Orenco has become an industry leader, with about 400 employees and some 330 points of distribution across North and Central America, Australasia, Europe, and Africa. Our systems have been installed in more than 70 countries around the world.

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