

AdvanTex[®] Treatment Systems

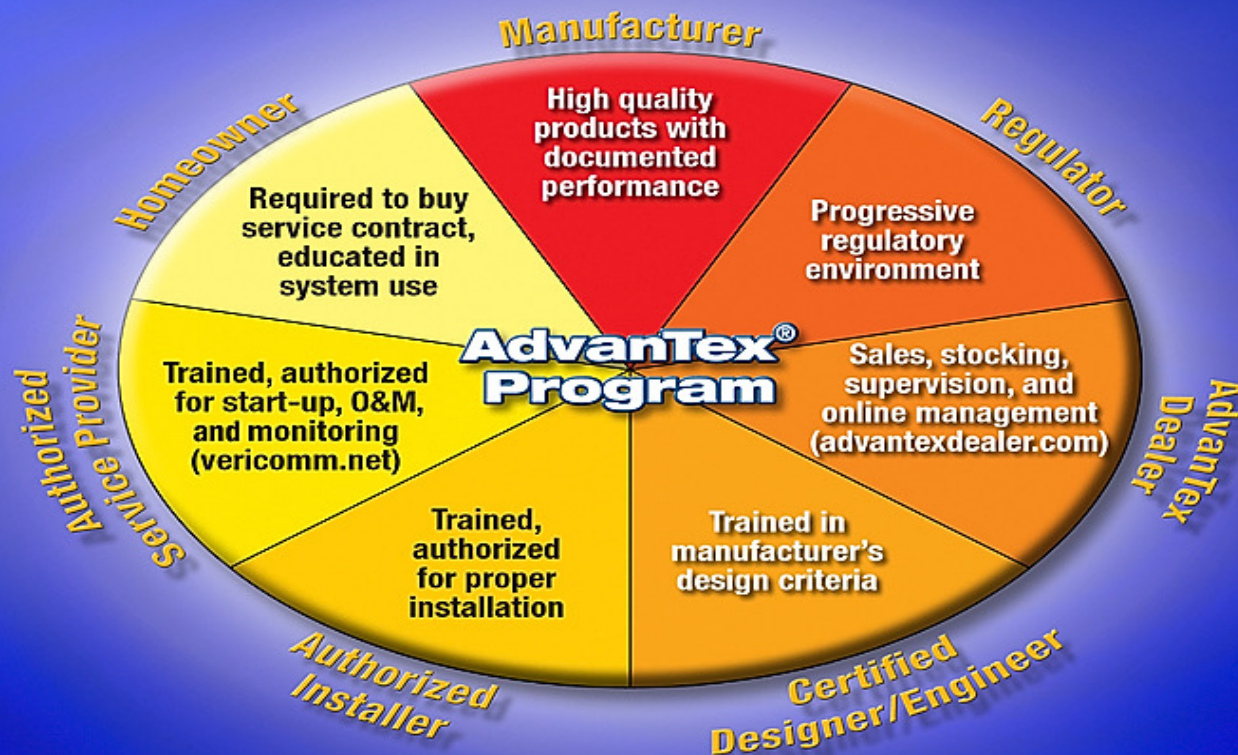
***Residential Applications
Orenco's AdvanTex[®] Program***

AdvanTex[®] Program

- The AdvanTex[®] Program emphasizes ...
 - ~ Supervised installation by trained and authorized Installers
 - ~ O&M by trained and authorized Service Providers
 - ~ Optional monitoring, via Orenco's VeriComm[®] remote telemetry control panels
 - ~ Lifetime data tracking, via Orenco's web-based management tools: advantexservice.com and advantexdealer.com

The AdvanTex[®] Program Includes ...

Products and processes to increase success of all parties involved in a residential onsite treatment installation



Manufacturer's (Orenco's) Responsibilities

- High-quality, warranted products with documented, third-party performance results:
 - ~ AX20: cBOD₅ and TSS of 5 mg/L or less
 - ~ Significant (60-70%+) nitrogen reduction, depending on mode and influent



Manufacturer's (Orenco's) Responsibilities

- Train and support dealers



Manufacturer's (Orenco's) Responsibilities

- Ongoing product support and expertise in the following areas:
 - ~ Training
 - ~ Support materials
 - ~ Regulatory relations
 - ~ Continuing R&D
 - ~ Design support
 - ~ Technical (IT) support
 - ~ Troubleshooting performance



How Regulators Can Help

- Support for a progressive regulatory environment
 - ~ Performance standards
 - ~ Third-party verification of technology
 - ~ Mandatory O&M



How AdvanTex[®] Dealers Help

- In addition to sales and stocking, Dealers are responsible for ...
 - ~ Training
 - ~ Overseeing
 - ~ Recording
 - ~ Filing

How AdvanTex[®] Dealers Help

- Dealers are trained by Orengo
 - ~ Orengo provides a complete training package, including curriculum
- Dealers train their staff and offer workshops to regulators, designers, and engineers
- Dealers train and authorize AdvanTex[®] Installers and AdvanTex[®] Service Providers



How AdvanTex[®] Dealers, Service Providers & Orenco Help

- Provide documentation to ensure tank manufacturers' designs meet Orenco's specs
- Ensure Homeowner has signed a Service Contract and received a Homeowner's Manual
- Ensure Service Providers perform scheduled maintenance and sampling, and respond promptly to alarms



Record Keeping

- Use advantexdealer.com to ...
 - ~ Record site info, contacts
 - ~ Match serialized equipment to sites
 - ~ Record filter pod serial number on Bill of Sale
- Fill out back of Homeowner's Manual for Homeowner (or assign responsibility to Service Provider)



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Designer and Engineer Support

- Attend workshops on AdvanTex[®] technology, program, design, operation, and maintenance
- Design systems to Orenco-provided Design Criteria
- Require and file an “as-built” from Installer where applicable

AdvanTex[®] Design Criteria

*For Residential Applications**

System Description and Treatment Process
The AdvanTex Treatment System is a multiple-pass, packed bed aerobic wastewater treatment system specifically designed and engineered for long-term processing of residential strength wastewater. See Figures 1a and 1b.



Orenco Systems
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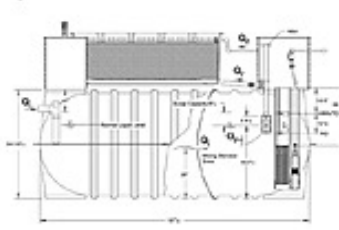


Fig. 1a
AdvanTex Treatment System: Side View

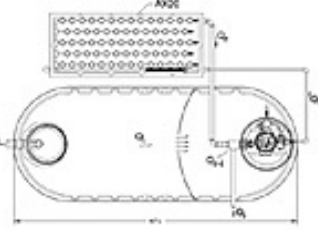


Fig. 1b
AdvanTex Treatment System: Top View

AdvanTex treatment systems are capable of processing residential strength wastewater to better than “secondary standards” (see page 4, Figures 2a and 2b). Raw sewage enters the two-compartment Processing Tank through its inlet tee. In the first compartment, the raw sewage separates into three distinct zones: a scum layer, a sludge layer, and a clear layer. A flow-through port(s) in the Tank’s baffle wall allows effluent from the clear layer to flow into the second compartment of the tank. The Biolube[®] Pump Package in the second compartment pumps filtered effluent to a distribution manifold in the AdvanTex Filter. Effluent percolates down through the textile media and is collected in the bottom of the filter pod. The treated effluent flows out of the filter pod through the Filtrate Return Line that returns the treated effluent to the Recirculating Splitter Valve (RSV). The RSV automatically splits or diverts the flow between the Processing Tank and the final discharge. The RSV also controls the liquid level within the Processing Tank. During extended periods of no flow, 100% of the treated effluent is returned to the Processing Tank. The residential AdvanTex filters have a passive vent system and do not require the use of a fan.

*This document is for residential applications only. For commercial applications, call Orenco Systems’ Engineering Department.

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Authorized Installer Support

- Attend training on AdvanTex[®] program, design, installation, operation, and maintenance
- Install systems per Orenco-provided Installation Guide
- Participate in start-up with Service Provider



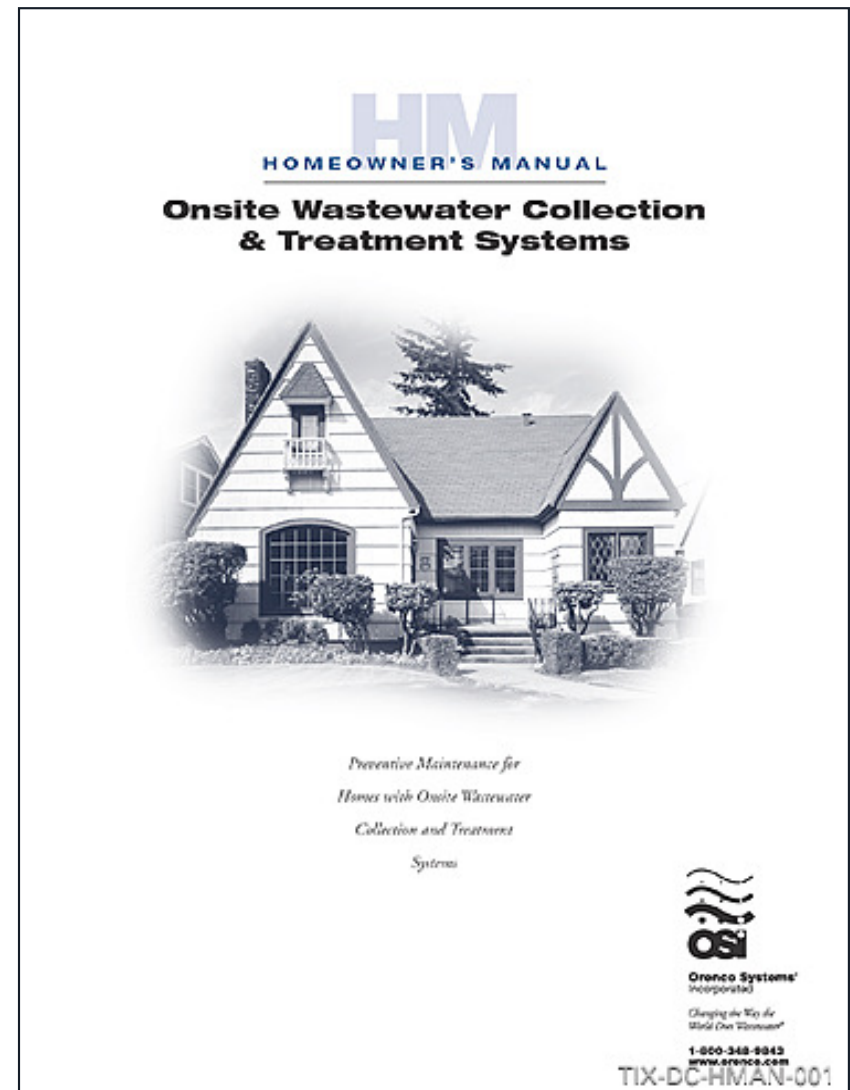
Authorized Service Provider Support

- Attend training on AdvanTex[®] program, technology, installation, operation, and maintenance
- System start-up*
- Obtain signed Service Contract from property owner
- Handle all regular service calls, alarm calls, sampling
- Record service reports and sampling data in advantexservice.com



Homeowner Support

- Service Contract
- Homeowner's Manual
- Service Provider support
- Technology documentation & manuals
- AdvanTex network professionals



AdvanTex[®] Program Benefits

- The AdvanTex[®] Program incorporates a series of “checks” and “double-checks” and mutual support
 - ~ Increases everyone’s “Say:Do” ratio
 - ~ Brings accountability to the onsite industry
 - ~ Uses collaborative approach
- The AdvanTex[®] Program protects the professional reputations of all parties
- The AdvanTex[®] Program protects public health and the environment

In Conclusion ...

- It demands accountability from the private sector and from system owners
- It provides the product AND the processes for that accountability

Questions?