



Douglas A. Ducey
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Misael Cabrera
Director

Notice of Proprietary Treatment Product Listing Pursuant to Arizona Administrative Code R18-9-A309(E)

ADEQ LTF #70248

1. Proprietary Treatment Product Name, Model, and Description

Product Name: AdvanTex® Treatment System
 Model: AX-MAX075-14, AX-MAX125-21, AX-MAX175-28, AX-MAX225-35, and AX-MAX275-42.
 Description: The AX-MAX Treatment System consists of one or two tanks with self-contained multi compartment units and textile media filter modules that treat septic tank effluent. The system includes a recirculation pump, a discharge pump, a 3-inch shared air inlet, and related appurtenances described in Section 4.
 The system is designed for residential development and municipal applications for design flows up to 24,000 gpd.

2. Manufacturer Information

Name: Orenco Systems Inc.
 Address: 814 Airway Ave
 City/State/Zip: Sutherlin, OR.97479
 Phone: 1-800-230-9580
 Fax: 541-459-4449
 Website: www.orenco.com

3. Recognized Treatment Performance

Parameter	Averaging Time	Parameter Value for Averaging Time
5-Day Biochemical Oxygen Demand (BOD ₅), mg/l	30-day arithmetic mean	8 ¹
Total Suspended Solids (TSS), mg/l	30-day arithmetic mean	3 ¹
Total nitrogen as nitrogen (TN), mg/l	five-month arithmetic mean	30 ¹
Total nitrogen as nitrogen (TN), mg/l	five-month arithmetic mean	15 ^{2,3&4}
Total coliform, colony forming units/100ml	95th percentile	100,000

NOTES:

¹ Treatment performance is based on the testing results for AX20 Mode 1.

Main Office

1110 W. Washington Street • Phoenix, AZ 85007
(602) 771-2300

Southern Regional Office

400 W. Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733

www.azdeq.gov

printed on recycled paper

² Treatment performance is based on the testing results for AX20 Mode 3, the five-month arithmetic mean of total nitrogen in raw wastewater (influent) not exceeding 53 mg/L. Total N value of 15 mg/l is recognized treatment performance satisfying the data submittal requirement of A.A.C. R18-9-E312(C)(4) for the approved AX20 Mode 3.

³ The system may be configured in Mode 1 or in Mode 3 for enhanced nitrogen removal. In Mode 1, the filtrate recirculates through the AX-Max recirculating treatment tank. In Mode 3, a portion of the filtrate is recirculated to the primary tank.

⁴ To determine the configuration of Mode 3 for enhanced nitrogen removal please refer to the document entitled "AdvanTex® Design Criteria, For Commercial and Multi-Family Application" approved for the AX100 Product Listing, or provide documentation from Orenco's System Engineering Department for pipe layouts and other necessary factors for required nitrogen reduction.

4. Product Applicability and Limitations for Use for a Recognized General Permit Technology

Applicability: This listing is for pump discharge only for the treatment technology specified in A.A.C. R18-9-E312(B).

Limitations:

- A. The product is for residential development and municipal applications.
- B. The product is for wastewater treatment and subject to A.A.C. R18-9-A312(F)(2) through (4).
- C. No gravity discharge is allowed.
- D. The AdvanTex® AX-MAX treatment system shall conform to the following:

Treatment System Design Flow (gallons per day) (See Notes B.1, B.3 & B.4)	Number of AX100 Filter Modules	Recirculation Tank Model Numbers		Treatment Product Appurtenances (See Note B.2)
		Tank 1	Tank 2	
up to 3,750	1	AX-MAX075-14	NONE	NDA-ATX-MAX-1, 11/11 and Commercial AdvanTex® General Specifications, total of 17 pages, dated December 2008
3,751 to 6,250	1	AX-MAX125-21	NONE	
6,251 to 8,750	1	AX-MAX175-28	NONE	
8,751 to 11,250	1	AX-MAX225-35	NONE	
11,251-13,750	1	AX-MAX275-42	NONE	
13,751-18,750	2	AX-MAX175-28	AX-MAX225-35	
18,751 - 24,000	2	AX-MAX225-35	AX-MAX275-42	

NOTES:

- B.1 – A.A.C. R18-9-A309(B)(3).
- B.2 – Appurtenances for this Treatment Product Listing INCLUDE the recirculation pump, discharge pump, recirculation return valve, recirculation return line, 3-inch shared flow and air line, tank baffle wall, and interconnecting piping. This listing EXCLUDES appurtenances which are considered to

	<p>be “other manufactured materials and components” such as an alarm, control panel, switch, timer, wiring, other electrical devices, and installation components; which are subject to both the manufacturer specifications and any more restrictive requirement in 18 A.A.C. 9, Article 3.</p> <p>B.3 – A.A.C. R18-9-E323 applies for treatment system design flow of 3,000 gpd to less than 24,000 gpd. The Performance Assurance Plan shall require quarterly effluent sample collection and analysis for Total Nitrogen, to be reported to the approving agency by the permittee on December 31 of each year until the facility is closed pursuant to A.A.C. R18-9-A309(D).</p> <p>B.4– The required septic tank preceding the AX-MAX should be designed per R18-9-A314.</p>
	<p>E. The nominal hydraulic application rate is not more than 25.0 gpd/ft² of textile filter inlet surface at the rated daily design flow.</p> <p>F. The nominal recirculation ratio for the system is 4:1.</p> <p>G. The treated wastewater from the listed product shall be delivered to a disposal works which conforms to R18-9-A312(C) through (F), R18-9-A313, and the applicable criteria in 18 A.A.C, Article 3, Part E for the selected disposal technology.</p>

5. Alternative Criteria and Exceptions for Use Under the Recognized General Permit Technology

Alternative:	None
Exception:	<p>1. When the wastewater source is other than single family dwellings, a Manufacturer’s Design Review Report shall be submitted with the Notice of Intent to Discharge to specify component capacities, control settings, and supplemental installation & operational practices, and</p> <p>2. Total N value of 15 mg/l is recognized treatment performance by this Notice of Proprietary Treatment Product Listing, subject to the reviewing agency approval of the findings of the Manufacturer’s Design Review Report for each Notice of Intent to Discharge pursuant to A.A.C. R18-9-A309(B).</p> <p>3. 24-hour emergency storage requirement per R18-9-A312(B)(4)(e) is waived by providing redundant pumps and emergency back up power. This is a condition of the product listing requested by the Orenco System, Inc., dated 05/14/2012.</p>



6. Documents Used as the Basis for this Proprietary Treatment Product Listing Notice

Application for Treatment Product Listing:	Dated - 02/09/18
Specifications:	AdvanTex® AX-MAX, General Specifications, dated 03/2017
System components:	Installation Manual, NIM-ATX-AX-3, dated 11/2011.
Manufacturer’s Design Criteria	Dated - 11/2017
Manufacturer’s Installation Manual:	Dated - 07/2017

<p>Manufacturer's Operation and Maintenance Manual:</p>	<p>Dated - 11/2011</p>
<p>Manufacturer's Warrantee:</p>	<p>Dated - 11/2009</p>
<p>Third party test data accepted for recognized treatment performance:</p>	<p>Since AX-MAX, AX20-RT, AX-100, and AX-20 have the same treatment technology specified in R18-9-E312, data used for AX-20 listing are also used for AX-MAX.</p> <p>Default treatment performance values are recognized in Section 3 on page 1 of this Notice based on A.A.C. R18-9-E312(B) for BOD₅, TSS, and Total Coliform. Default treatment is recognized for TN in Section 3 of this Notice for the AX20 Mode 1.</p> <p>Superior treatment is recognized for TN in Section 3 on page 1 of this Notice for the AX20 Mode 3 is based on an Environment Bay of Plenty Study. This study was conducted by Rotorua District Council, Environment Bay of Plenty and Environment Waikato. The study started in May of 2005 and ended in April of 2006.</p>
<p>Redundant pump and backup power:</p>	<p>Letter by Orenco System, Inc., dated 05/14/2012.</p>

7. Terms and Conditions for this Proprietary Treatment Product Listing Notice

- A. This Notice of Proprietary Treatment Product Listing shall remain in effect until any of the following occurs:
 - i. Applicable provisions of the Arizona Administrative Code, Title 18, Chapter 9, Article 3 are revised;
 - ii. Documents used for the basis of this listing are altered or modified;
 - iii. Manufacturer claims which are relied upon for this listing are later determined to contain an error or omission;
 - iv. The manufacturer requests termination of this listing;
 - v. A listing error or omission is identified; or
 - vi. The manufacturer and ADEQ mutually agree to reissue this notification to incorporate a correction or update for any reason.
- B. This Notice of Proprietary Treatment Product Listing does not apply when the:
 - i. Listed proprietary treatment product is modified or operated in a manner that conflicts with Arizona law or the documents used for the basis of this listing action in Section 6.
 - ii. Listed proprietary treatment products used in a manner that cannot achieve the performance in Section 3 above.
- C. This Notice of Proprietary Treatment Product Listing applies solely to the product specified in Section 1 above.
- D. The manufacturer is responsible for notifying the ADEQ of changes to contact information at the following address:
 Attention: Product Listing Supervisor
 Engineering Review Desk,
 1110 West Washington Street
 Phoenix, AZ 85007.
- E. The listing by ADEQ of any proprietary product or service is not an endorsement by ADEQ or the State of Arizona. ADEQ does not endorse, represent, guarantee, warranty or defend the use of any product which is authorized for use pursuant to A.A.C. R18-9-A309(E). Product providers are a direct source unrelated to ADEQ or the State of Arizona. Use of any listed product is at the user's risk and the State assumes no liability.

Signature:	 Raymond D. Morgan, P.E.	Date Signed:	
Title:	Environmental Engineer		

ADEQ LTF #70248
 Reviewer: Raymond D. Morgan