



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 #73070

### 1. Proprietary Treatment Product Name, Model, and Description

Product Name: Anua

Models: Puraflo Dn

Description: The Puraflo Dn is a typical Puraflo Peat Fiber Biofilter system which provides enhanced denitrification below 15 mg/l through recirculating 50% of the treated effluent back to the front-end of the septic tank. The system consists of a septic tank with a commercially-rated effluent filter with 1/32" filtration, a dosing tank and effluent pump to accommodate dosing of the septic effluent onto peat fiber media, and the biofilter modules where advanced treatment occurs. This listing is applicable for design flows less than 24,000 gpd.

### 2. Manufacturer Information

Name: Anua

Address: P. O. Box 77457

City/State/Zip: Greensboro, NC

Phone: 336-547-9338

Fax: 336-547-8559

Website: [www.anuainternational.com](http://www.anuainternational.com)

### 3. Recognized Treatment Performance

Parameter	Averaging Time	Parameter Value for Averaging Time
5-Day Biochemical Oxygen Demand (BOD <sub>5</sub> ), mg/l	30-day arithmetic mean	4
Total Suspended Solids (TSS), mg/l	30-day arithmetic mean	5
Total nitrogen as nitrogen(TN), mg/l	five-month arithmetic mean	13
Total coliform, colony forming units/100ml	95th percentile	100,000*

\*Default values due to lack of submitting 3<sup>rd</sup> party data per R18-9-E11(B).

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

**Applicability:** This listing is for only the Puraflo Dn Peat Fiber Biofilter treatment technology specified in A.A.C. R18-9-E311.

**Limitations:**

- A.** This listing is for treated wastewater that meets the definition of typical sewage in R18-9-101(42).
- B.** The Puraflo Dn Peat Fiber Biofilter must receive wastewater that meets the definition of typical sewage in R18-9-101(42) and is treated to a level equal to or better than that specified in R18-9-E302(B).
- C.** The Puraflo Dn Peat Fiber Biofilter shall receive pretreated wastewater from a septic tank which conforms to A.A.C. R18-9-A314;
- D.** The product, including the pretreatment works, is subject to A.A.C. R18-9-A312.B.4.e. & F.2 thru F.4.
- E.** The product shall conform to the following:

Maximum Design Flow (gallons per day) per R18-9-A309(B)(3) (Per Module)	Manufacturer's Model Pump or Gravity Disposal	Materials of Construction	Manufacturer's Model Number	Dose Rate (gpm)	Dose Volume (gallons)
120 gpd	Puraflo HDPE Module -Recirculation Mode -50% of treated effluent must recirculate to front-end of septic tank	HDPE	Module P120Dn*XX	7 to 12	12.5
240 gpd	Puraflo Precast 1000 Gallon Low Profile Tank -Recirculation Mode -50% of treated effluent must recirculate to front-end of septic tank	Precast Concrete	P240Dn*XX	14 to 24	25
360 gpd	Puraflo Precast 1500 Gallon Low Profile Tank -Recirculation Mode -50% of treated effluent must recirculate to front-end of septic tank	Precast Concrete	P360Dn*XX	21 to 36	37.5
600 gpd	Puraflo Precast 2500 Gallon Low Profile Tank -Recirculation Mode -50% of treated effluent must recirculate to front-end of septic tank	Precast Concrete	P600Dn*XX	35 to 60	62.5

\*XX denotes number of modules and type. Type "A" or "B" (Type A – Weep holes; Type B – pipped outlet) See Manufacturer's details for further information.

- F.** Effluent from the peat filter can be dispersed to the disposal works either by gravity flow following the requirements of R18-9-E302 or pump flow following the requirements of R18-9-E304. Bottom discharge from the treatment module through weep holes (Type A) may be dispersed to the gravel bed (pad)

supporting the treatment module to allow it to act as a disposal works following the requirements of R18-9-E311(D)(2)(a) and R18-9-E311(D)(2)(b).

- G.** Effluent disposal shall be based upon trench soil absorption rates.
- H.** In extreme cold weather conditions, the force main should be designed to drain back after each cycle and the drain back cycle should be factored into the dosing calculations per the manufacturer’s requirements.
- I.** This approval listing EXCLUDES appurtenances which are considered to be an alarm, control panel, control, 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.
- J.** ADEQ does not approve design or operation manuals for proprietary products. However, “if manufactured components are used, an applicant shall design, install, and operate the on-site wastewater treatment facility following the manufacturer’s specifications” as per R18-9-A312(F)(2).

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


<b>Alternative:</b>	None
<b>Exception:</b>	<ul style="list-style-type: none"> <li>a. When the wastewater does not meet the definition of typical sewage as defined in R18-9-101(42), a Manufacturer’s Design Review Report shall be submitted for review and approval along with the Notice of Intent to Discharge. This Design Review Report shall specify component capacities, control settings, and supplemental installation &amp; operational practices.</li> </ul>

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

Application for Treatment Product Listing:	07/05/2018
Manufacturer’s Warranty:	TAB 3: Puraflo Dn Owner’s Manual, Limited Warranty, May 31, 2018.
Manufacturer’s Specifications:	TAB 6: Engineering Details/Calculations, Technical Specifications, and Installation Requirements of the System, May 31, 2018.
Operation & Maintenance Manual:	TAB 8: O & M Manual, May 31, 2018.
3 <sup>rd</sup> Party Test data:	Tab 10: NSF/ANSI Standard 40/245 Puraflo Peat Fiber Biofilter Denitrification System was independently conducted by North Caroline State University at TZ Osborne Water Reclamation Facility, March 2013.
Design Manual:	Tab 11: Puraflo Dn Peat Fiber Biofilter Reference Manual, May 31, 2018.

**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:
  - 1. Applicable provisions of the Arizona Administrative Code, Title 18, Chapter 9, Article 3 are revised;
  - 2. Documents used for the basis of this listing are altered or modified;
  - 3. Manufacturer claims which are relied upon for this listing are later determined to contain an error or omission;
  - 4. The manufacturer requests termination of this listing;
  - 5. A listing error or omission is identified; or
  - 6. The manufacturer and ADEQ mutually agree to reissue this notification to incorporate correction or update for any reason.
- B. This Notice of Proprietary Treatment Product Listing does not apply when the:
  - 1. 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.
  - 2. Listed proprietary treatment products are 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 ADEQ of changes to the 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.

<b>Signature:</b>	 David Dunaway, Manager	<b>Date Signed:</b>	2/20/19
<b>Title:</b>	Groundwater Protection Value Stream Manager		

ADEQ LTF # - 73070  
 Reviewer: Ali Baadiyan