



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 #93442

1. Proprietary Treatment Product Name, Model, and Description

Product Name: Anua BioCoir Coconut Fiber Biofilter

Models: See Table Below.

Description: The Anua BioCoir Coconut Fiber Biofilter is an attached growth packed bed reactor, that utilizes coconut fiber – coir - (husks of coconuts) as a filtering media. In the packed media, microorganisms remove contaminants from the wastewater. Raw sewage enters a two-compartment tank; the first compartment provides primary treatment and the clear layer of the first compartment flows into the second compartment tank. A pump in the second compartment transfers effluent to the filter pod for secondary treatment. Spray nozzles inside the filter pod distribute liquid over the coir in which the wastewater percolates down through the media collecting at the bottom of the pod. The uniform coir provides ample surface area for biological growth. The collected wastewater flows out through a pipe where 20% of the treated effluent is discharged and 80% is returned to the second compartment. This listing is applicable for design flows up to 24,000 gpd.

2. Manufacturer Information

Name: Anua
Address: P.O. Box 77457
City/State/Zip: Greensboro, NC
Phone: (336)547-9338
Fax: N/A
Website: www.anuainternational.com

3. Recognized Treatment Performance

Parameter	Statistical Measure	Value
5-Day Biochemical Oxygen Demand (BOD ₅), mg/L	30-day arithmetic mean	11 mg/L
Total Suspended Solids (TSS), mg/L	30-day arithmetic mean	12 mg/L
Total Nitrogen as Nitrogen(TN), mg/L	five-month arithmetic mean	17 mg/L
Total Coliform, Colony Forming Units/100mL	95th percentile	100,000 (Log ₁₀ 5) cfu/100 mL

Main Office

1110 West Washington Street • Phoenix, AZ 85007
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400 West Congress Street • Suite 433 • Tucson, AZ 85701
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4. Product Applicability and Limitations for Use for a Recognized General Permit Technology

Applicability: This listing is for only the Anua BioCoir Coconut Fiber Biofilter and is listed as peat filter treatment technology specified in A.A.C. R18-9-E311.

Limitations:

- A. The Anua BioCoir Coconut Fiber Biofilter must receive wastewater that is treated to a level equal to or better than specified in R18-9-E302(B). Additionally, it must meet oil and grease ≤ 75 mg/L requirement contained in R18-9-101(42).
- B. The product shall conform to the following:

Maximum Design Flow (gallons per day) per R18-9-A309(B)(3) Per Pod	Manufacturer's Model Number	Media Volume Per Pod (Cubic Feet)	Media Loading Rate (Gallons per Day per Cubic Foot)	Treatment Unit Housing	Recirculation Tank Minimum Capacity (Gallons)
188	ATS-SCAT-4-BC-C200	32	5.88	Quanics FRP	1.0 x Design Flow
312	ATS-SCAT-6-BC-C300	53	5.88	Quanics FRP	1.0 x Design Flow
500	ATS-SCAT-8-BC-C500	85	5.88	Quanics FRP	1.0 x Design Flow
2352	ATS-SCAT-16-BC-C2400	400	5.88	Quanics FRP	1.0 x Design Flow
500	ATS-540-BC-N	85	5.88	Infiltrator IM-540 Tank	1.0 x Design Flow
800	ATS-1060-BC-N	136	5.88	Infiltrator IM-1060 Tank	1.0 x Design Flow
1500	ATS-1530-BC-N	255	5.88	Infiltrator IM-1530 Tank	1.0 x Design Flow
500	ATS-NS500-BC-N	85	5.88	Norwesco-Snyder Next Gen D2 500	1.0 x Design Flow
660	ATS-NS750-BC-N	112	5.88	Norwesco-Snyder Next Gen D2 750	1.0 x Design Flow
800	ATS-NS1000-BC-N	137	5.88	Norwesco-Snyder Next Gen D2 1000	1.0 x Design Flow
500	ATS-NS500-80/20-BC-N	85	5.88	Norwesco-Snyder Next Gen D2 500	1.0 x Design Flow
660	ATS-NS750-BC-N	112	5.88	Norwesco-Snyder Next Gen D2 750	1.0 x Design Flow
800	ATS-NS1000-BC-N	136	5.88	Norwesco-Snyder Next Gen D2 1000	1.0 x Design Flow
1000	ATS-NS500-2-80/20-BC-N	170	5.88	Norwesco-Snyder Next Gen D2 500x2	1.0 x Design Flow
1500	ATS-NS500-3-80/20-BC-N	255	5.88	Norwesco-Snyder Next Gen D2 500x3	1.0 x Design Flow

1320	ATS-NS750-2-80/20-BC-N	224	5.88	Norwesco-Snyder Next Gen D2 500x2	1.0 x Design Flow
400	Q-ATS-A400-80/20-BC	67	5.88	Anua HDPE	1.0 x Design Flow
800	Q-ATS-A400-2-80/20-BC	134	5.88	Anua HDPE	1.0 x Design Flow
1200	Q-ATS-A400-3-80/20-BC	201	5.88	Anua HDPE	1.0 x Design Flow

- C. 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.
- D. This listing is for the treatment of wastewater that meets the definition of typical sewage in R18-9-101(42).
- E. The manufacturer recommends inspection of the Anua BioCoir Coconut Fiber Biofilter around year 2 of service in addition to the routine maintenance.
- F. The requirement of R18-9-A312(B)(4)(e) has been met by providing twenty-four-hour emergency storage of wastewater within the unit itself.
- G. ADEQ approves the Residential Design Guide (07-2022), Installation Manual (07-2022), Maintenance Manual (07-2022), and Pad Dispersal Manual (06-2022) for this proprietary product. In addition, it should be noted that the Arizona Administrative Code (AAC) states the following: “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).
- H. The product, including the pretreatment works, is subject to A.A.C. R18-9-A312(F)(2) through (4).

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

Alternative:	None
Exception:	<ul style="list-style-type: none"> 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 & operational practices.

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

Application for Treatment Product Listing:	March 3, 2022
3 rd Party Test data:	Wastewater Technology NSF International January 2006 In-Field Performance Evaluation of BioCoir Media Filters on Homes in Virginia with a Critique on the Statistical Misapplication Called Pseudo-replication – Florida Journal of Environmental Health 2014, Issue 216, 5-29

Installation Instructions:	Anua BioCoir Coconut Fiber Biofilter Residential Design Guide Dated 06/2022 and Received June 6, 2022 Anua BioCoir Coconut Fiber Biofilter Installation Manual Dated 07-2020 and Received March 3, 2022
Manufacturer's Warranty:	Anua BioCoir Coconut Fiber Biofilter Maintenance Manual – Product Warranty Received March 3, 2022
Manufacturer's Specifications:	Anua BioCoir Coconut Fiber Biofilter Pad Dispersal Manual Received March 3, 2022
Manufacturer's Design Calculations & Drawings:	Anua BioCoir Coconut Fiber Biofilter Engineering & Technical Specifications Received March 3, 2022 Anua Technical Drawings Dated 02/26/22
Operation & Maintenance Manual:	Anua BioCoir Coconut Fiber Biofilter Maintenance Manual Dated 06/2022 and Received June 6, 2022
Owner's Manual:	Anua BioCoir Coconut Fiber Biofilter Owner's Manual Dated 06/2022 and Received June 6, 2022
Other Items Received:	NSF Official Listing Recorded on May 6, 2022 and Received June 6, 2022

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.

Signature:	<i>Naveen Savarirayan</i> Naveen Savarirayan	Date Signed:	Sep 23, 2022
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Title:	Manager, Groundwater Protection Value Stream
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ADEQ File #20220094; ADEQ LTF #93442
Reviewer: LAL