



Scott Walker, Governor
Dave Ross, Secretary

August 29, 2016

Identification Numbers
Transaction ID No. 2723913
Site ID No.
Please refer to both identification numbers, above, in all correspondence with the agency.

CUST ID No. 1352957

PATRICK TORRES
ORENCO SYSTEMS INC
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CONDITIONAL APPROVAL
PLAN APPROVAL EXPIRES: 08/31/2021

Re: Description: SEWAGE TREATMENT APPARATUS
Manufacturer: ORENCO SYSTEMS INC
Product Name: (trans id 2723913) ADVANTEX AX100
Model Number(s): AX100 (2500 GPD Average Daily Flow)
Product File No: 20160163

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters SPS 382 through 384, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. **This approval is valid until the end of August 2021.**

This approval supersedes the approval issued on 12/18/2007 under product file number 20070540.

This approval is contingent upon compliance with the following stipulation(s):

- Based on testing data submitted and reviewed by the department, this approval recognizes that when the actual flows are consistent with the manufacturer's hydraulic loading rate specifications stated above in the regarding block under Model Number(s), and recirc-blend tank influent strength does not exceed the levels listed in Table 1, this plumbing product will produce effluent not exceeding the performance levels indicated in Table 2.

Table 1
Recirculation-blend tank influent strength

	Average	Average Weekly Peak	Rarely Exceed
BOD5 (mg/L)	150	250	500
TSS (mg/L)	40	75	150
TKN (mg/L)	65	75	150
Oil & Grease (mg/L)	20	25	25
Fecal Coliform (cfu/100 ml)	1,000,000		

Table 2
AX100 filter effluent characteristics

	Average
BOD5 (mg/L)	10 (maximum)
TSS (mg/L)	10 (maximum)
Ammonia-N (mg/L)	10 (maximum)
Total Nitrogen (mg/L)	65% reduction* (minimum)
Fecal Coliform (cfu/100 ml)	10,000 (maximum)

* Expected Total Nitrogen reduction relative to recirc-blend tank influent

- The treatment system requires a primary septic tank connected to a downstream recirculation-blend tank. For multifamily residential systems, individual onsite septic tanks may be connected to a common recirculation-blend tank; similarly, non-residential systems serving multiple waste-generating units may utilize separate septic tanks for each waste-generating unit, connected to a common recirculation-blend tank.
- Septic tank sizing must be based on ch. SPS 383 Wisconsin Adm. Code design flow requirements, using the hydraulic retention time factors specified by the manufacturer, as listed in the Primary Tank Sizing Chart contained in Document Number NDA-ATX-COMM-PKG-1, Rev. 1.1, copywriter 10/05 (entitled "AdvanTex Design Criteria").
- The septic tank effluent and the filtrate-return from the AX100 pod units must enter the recirculation-blend tank at the opposite end of the recirculating pump(s) that discharges to the AX100 pod units.
- The filtrate shall be proportioned between the recirculation-blend tank and the final discharge using a recirculating splitter valve or a recirculating ball valve specified by Orenco Systems, Inc.
- Volume of the recirculation tank must be at least 80% of the regulatory peak design flow. When this product is installed for denitrification, the volume of the recirculation-blend tank(s) must be at least 100% of the regulatory peak design flow.
- Recirculation ratios and timer settings must conform to manufacturer's recommendations contained in Document Number NDA-ATX-COMM-PKG-1, Rev. 1.1, copywriter 10/05 (entitled "AdvanTex Design Criteria")
- This product must be installed in conjunction with watertight septic and recirculation-blend tanks that have been approved by Orenco Systems, Inc. Each tank that is utilized in the installation of this product must pass a water tightness test after installation. The water tightness test must comply with s. SPS 384.25 (2) of the Wis. Adm. Code.
- This product must be installed with associated equipment produced by Orenco Systems Inc., including ProSTEP pumping package, automatic distributing valves, and recirculating splitter valve or ball valve.
- The control panel must be an Orenco System Inc., remote telemetry control panel with phone connection, exception, except in cases where phone connection is not feasible.
- An Orenco Systems, Inc. representative must be present at the system start up.
- The installation of this product must comply with Orenco Systems, Inc. publication NIM-ATX-AX-2 Rev. 2.2, copyright 5/06 entitled AdvanTex-AX100 Treatment System Installation Guide.
- Any design that is not within the limits of this approval must be approved by Orenco Systems, Inc. and approved as an Individual Site Design by the Department of Safety and Professional Services Division of Industry Services.

- The residual pressure at the manifold must be set in accordance with specifications contained in Orenco Systems, Inc. publication NIM-ATX-AX-COMM-2 Rev. 1.2, copyright 4/07 entitled AdvanTex-AX100 Treatment System Installation Guide.
- TABLE3 INSPECTION, MAINTENANCE AND PUMPING
PRODUCT/ (Models): ORENCO (AdvanTex AX100)
Initial/Startup Inspection/ Maintenance: Inspect at startup; inspect/maintain quarterly for first year, or more frequently as determined by local requirements or by system operator.
Routine Inspection/Maintenance: Inspect annually or more frequently as determined by local requirements or by system operator.
Ongoing Pumping Cycle And/Or Requirements: Check scum/sludge accumulation every 2 to 3 years at minimum; pump as necessary, or as per local requirements
Back-Wash Cycle Effluent Performance Levels: N/A
Effluent Performance Levels: BOD = 10 mg/L max.; TSS = 10 mg/L max.;
Ammonia-N =10 mg/L max.; Total Nitrogen = 65% reduction ;
Fecal coliform = 10,000 cfu/100 mL max.
BOD5 Credit For Downsizing Distribution Area: YES
Fecal Credit For Reduction Of Vertical Separation: YES
Additional Comments: NONE

The department is in no way endorsing this product or any advertising, and is not responsible for any situation which may result from its use.

Sincerely,

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