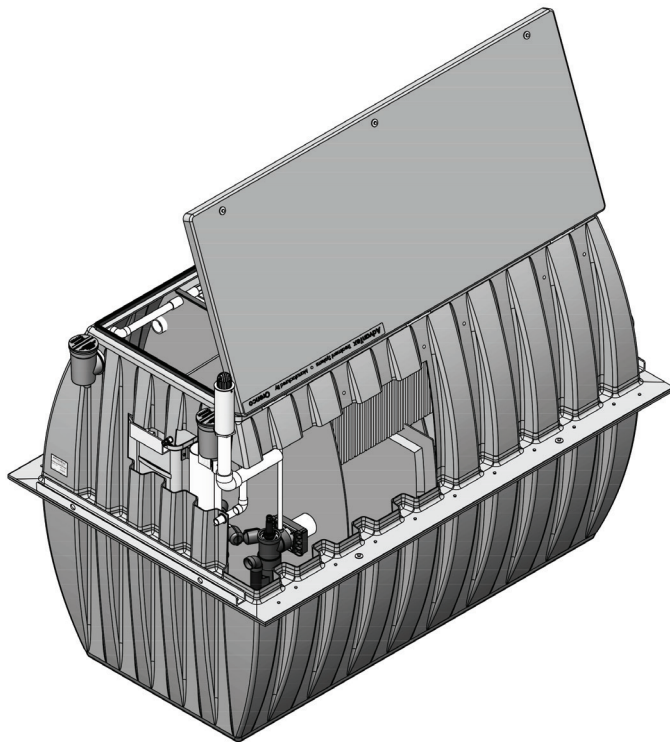# AdvanTex® AX20-RTUV Treatment Systems

Applications

Orenco's AdvanTex AX20-RTUV Treatment System is a single, complete, self-contained module that treats residential-strength septic tank effluent to better than secondary standards with nitrogen reduction and ultraviolet disinfection before discharging it by means of pump or gravity. It is ideal for new home construction, and it is also well suited for:

- National Pollutant Discharge Elimination System (NPDES) applications
- Repairs and retrofits
- Small sites and poor soils
- Sites that require shallow bury
- Strict discharge limits, including disinfection

General

Following septic tanks equipped with Biotube® effluent filters,* the AdvanTex AX20-RTUV eliminates the need for separate recirc, treatment, discharge, and disinfection tanks and basins by performing all functions within a single module. It also reduces the number of risers and lids needed in the treatment train. For sites requiring antibuoyancy measures, Orenco offers antiflotation kits with turnbuckles.

The heart of the AX20-RTUV is the AdvanTex Recirculating Treatment Tank, a sturdy, watertight, corrosion-proof dicyclopentadiene (DCPD) tank that includes the same dependable, textile treatment media found in all AdvanTex products.
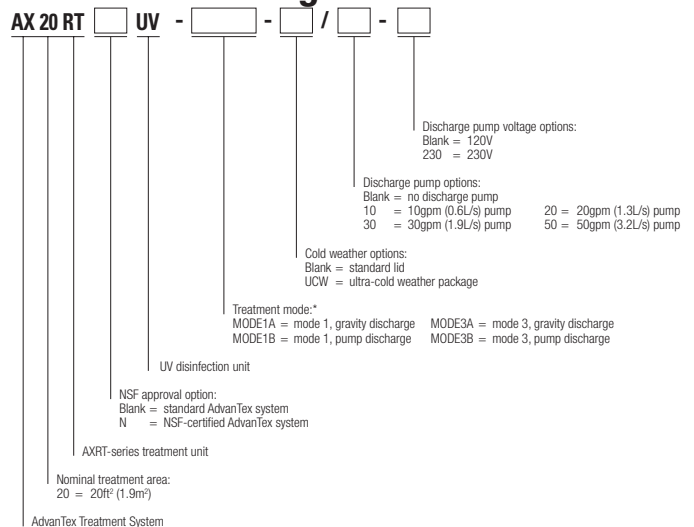
After treatment, effluent flows by gravity into the UV disinfection unit, through the contact chamber, and around the UV lamp, where it is disinfected in a 360-degree contact zone. The UV disinfection unit uses no chemicals and has no moving parts. It requires annual cleaning and lamp replacement. In side-by-side NSF® testing, the Orenco AXUV reduced bacteria by 99.999% (5 logs), meeting or exceeding the performance of other residential UV disinfection.

* Not for individual sale in the state of Georgia.

Standard Models

AX20RTUV-MODE1A

AX20RTUV-MODE1B/10

AX20RTUV-MODE1B/30

Product Code Diagram

AX 20 RT ☐ UV - ☐ - ☐ / ☐ - ☐

Discharge pump voltage options:
Blank = 120V
230 = 230V

Discharge pump options:
Blank = no discharge pump
10 = 10gpm (0.6L/s) pump   20 = 20gpm (1.3L/s) pump
30 = 30gpm (1.9L/s) pump   50 = 50gpm (3.2L/s) pump

Cold weather options:
Blank = standard lid
UCW = ultra-cold weather package

Treatment mode:*
MODE1A = mode 1, gravity discharge   MODE3A = mode 3, gravity discharge
MODE1B = mode 1, pump discharge   MODE3B = mode 3, pump discharge

UV disinfection unit

NSF approval option:
Blank = standard AdvanTex system
N = NSF-certified AdvanTex system

AXRT-series treatment unit

Nominal treatment area:
20 = 20ft² (1.9m²)

AdvanTex Treatment System

* Mode description:
Mode 1 = standard configuration
Mode 3 = pre-anoxic return line, enhanced nitrogen reduction

NSF
NSF/ANSI STANDARD 40

AdvanTex Treatment System AX-RTN Models meet the requirements of NSF/ANSI Standard 40 for Class I Systems.

UL

UL-recognized Orenco AXUV Disinfection Unit.

Components

1. Inlet
2. Recirc/blend chamber
3. Recirc transfer line
4. Recirc pumping system
5. Manifold and spin nozzles
6. Treatment media
7. Tank baffle
8. Recirc return valve
9. Recirc/filtrate chamber
10. Divider wall
11. Orenco AXUV ultraviolet disinfection unit
12. Disinfection/discharge chamber
13. Discharge pumping system
14. Outlet
15. External splice box
16. Passive air vent
17. Control panel (not shown)

AdvanTex AX20-RTUV side view (pump discharge model shown)

AdvanTex AX20-RTUV top view (pump discharge model shown)

Specifications

Nominal Dimensions†

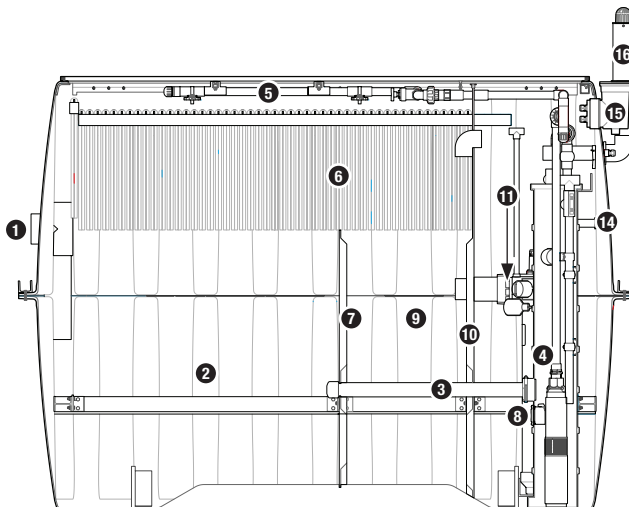|	
Length, in (mm)	102 (2591)
Width, in (mm)	62 (1575)
Height, in (mm)	72 (1829)
Footprint, ft² (m²)	44 (4.09)
Footprint, ft² (m²) (after installation)	20 (1.86)
Lid insulation value	R-6 (RSI-1.1)

Dry Weight, lb (kg)

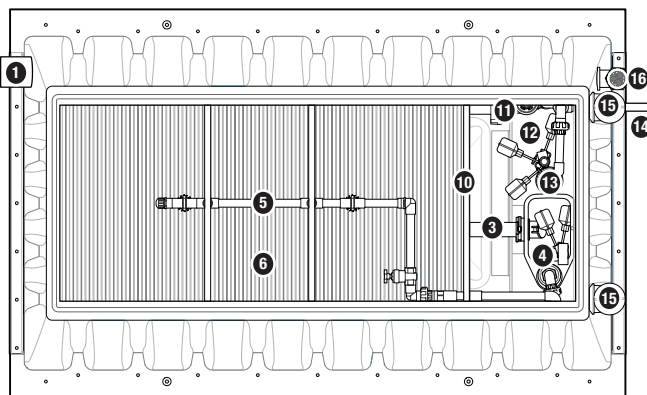|	
Gravity discharge model	908 (412)
Pump discharge model	948 (430)

UV Unit Performance‡

Typical contact chamber UV dose (65% transmittance, 20% lamp degradation)	270,000μW·s/cm² at 1gpm (0.06L/sec) 55,000μW·s/cm² at 5gpm (0.32L/sec) 28,000μW·s/cm² at 10gpm (0.63L/sec)
Minimum target dose	30,000-38,000μW·s/cm²
Lamp	31in (787mm), 92VAC, 50 or 60Hz, 425mA, 38W; 254nm UVC intensity at 1m is 125μW/cm²
Power cord	600V, 18/2 UL Type TC, 25ft (7.62m) length
Cord plug	UL listed four-pin connector, lampholder, electric discharge, 1000V or less
Ballast	120V, AC, 50 or 60Hz, located in UL-listed Orenco control panel

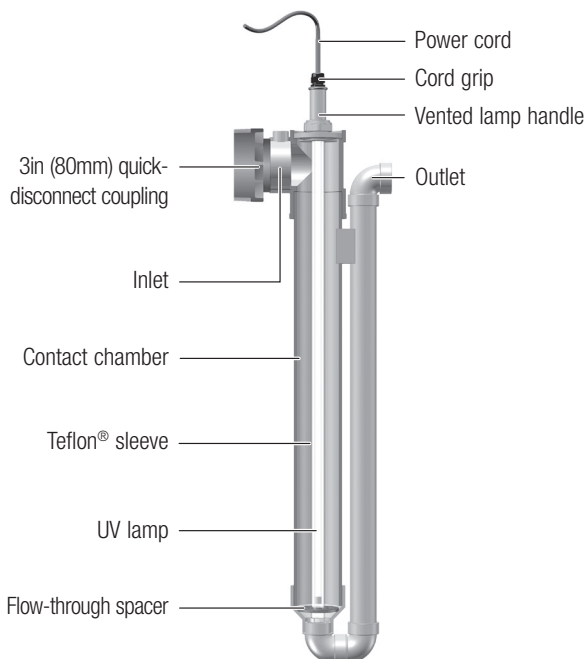*† Nominal values provided. See AdvanTex Treatment System drawings for exact dimensions.*

‡ For additional info and specs, see Orenco AXUV Disinfection Unit *(NTD-UV-OSI-2).*

Power cord
Cord grip
Vented lamp handle
3in (80mm) quick-disconnect coupling
Outlet
Inlet
Contact chamber
Teflon® sleeve
UV lamp
Flow-through spacer

Orenco AXUV Disinfection Unit, (cutaway view)