

Aerators Do's & Don'ts

- **Do** keep your service contract current and follow service providers recommendations. It is extremely important that ATU's receive regular maintenance.
- **Do** obtain and read the homeowners manual from the place you purchase your ATU and follow the suggested guidelines.
- **Do** keep a detailed record of service work done on the system, and a map of all the system components in the yard.
- **Do** conserve water as much as possible and fix any plumbing leaks inside the home.
- **Do** become familiar with your ATU, so you will notice any problems immediately and have the repaired.
- **Don't** drive over the leach field or place anything over the leach field that could crush the field.
- **Don't** use the ATU system like a trash can. Never flush chemicals, paint, coffee grounds, dental floss, diapers, sanitary napkins, condoms, fats or oils, pesticides, or cat litter down the drains.
- **Don't** use a garbage disposal with an ATU. Garbage disposals add additional organic matter to ATUs that is difficult to breakdown completely.
- **Don't** use Rid-x or other septic tank additives to ATU units. These additives don't provide beneficial treatment and could actually hurt treatment of septic systems.
- **Don't** attempt to do repairs to your system without checking with the health department first and **NEVER** enter an ATU unit.
- **Don't** wait to call a service provider or health department if an alarm is going off, if there is a plumbing backup, or you have sewer odors in the house.

Additional Resources

This guide is a general overview of ATU's in Athens County. More detailed information, owner's manuals, and technical data are listed below:

- Jet Precast Company
Aerator Manufacturer
www.jetprecast.com
- Norwalk Wastewater Equipment Company (NORWECO)
Aerator Manufacturer
www.norweco.com
- Delta Environmental
Aerator Manufacturer
www.deltaenvironmental.com
- Ohio Department of Health Sewage Website
www.odh.ohio.gov/odhprograms/eh/sewage/sewage1.aspx
- National Small Flows Clearinghouse
www.nesc.wvu.edu/nsfc_index.htm
- Ohio Onsite Wastewater Association
www.ohionsite.org
- Inspectapedia
Septic system inspection guide
www.inspect-ny.com/septbook.htm

Athens City-County Health Department Environmental Health Division

278 West Union Street
Athens, OH 45701

Phone: 740-592-4431

Fax: 740-594-2370

E-mail: www.health.athens.oh.us

Protecting and Promoting
the Health Of All Athens
County Residents.

A Guide to Better Understand Your Aerator.



Athens City-County Health Dept.
278 W. Union St.
Athens, OH 45701
(740)-592-4431

What's The Difference Between an Aerator and a Septic Tank?

An aerator is another name for an aerobic treatment unit (ATU). In some ways an ATU is similar to a septic tank in that they both use natural processes to break down wastewater to a more manageable form. They both are large underground tanks made out of either concrete, plastic, or fiberglass. It is what is going on inside the tank that makes them different.

Septic tanks are watertight and relatively air tight tanks that passively treat wastewater. Because they are air tight, they do not rely on oxygen to help break down wastewater. This type of treatment is called *anaerobic* treatment. ATU's use a much different approach than septic tanks in that they use pull oxygen from the outside to create an aerobic environment in the wastewater. This is a much more effective and quicker method to break down organic matter and reduce pathogens as compared to septic tanks.

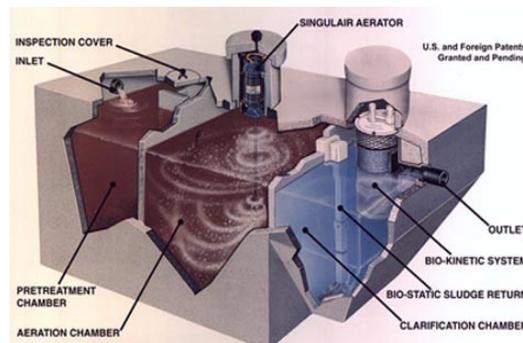
There are many different manufactures of ATUs and they all work on the same principle of adding oxygen to the wastewater. However, the effectiveness of the many ATUs does vary quite a bit. Therefore, before an ATU is used in Ohio, it must go through numerous tests and continuously produce high quality effluent (water exiting a tank or ATU). Based on the testing results, the Ohio Department of Health will give permission to use specific ATUs in specific soil and site locations. This testing and resulting approval is very important because an ATU that produces highly treated effluent can be used in environmentally sensitive areas and in soils that cannot effectively treat septic tank effluent. This will result in a septic system, if designed to meet the soil conditions for the particular site, that will last longer and more effectively.

How Does an Aerator Work?

Most ATUs installed and used in Athens county are a very similar style. These ATUs are made from concrete and has three chambers inside the single tank. The first compartment (closest to the house) is used as a pretreatment chamber in which solids, grease, and oils are retained and only the untreated water enters the second chamber. This compartment acts almost like a septic tank, in that some anaerobic treatment occurs before the water enters the second chamber. This chamber has another purpose in that it helps control the flow of water that enters the second chamber. If the flow of wastewater is not controlled and too much wastewater enters the treatment tank too rapidly, the quality of the treatment can suffer.

The second chamber is where the actual aerobic treatment occurs. Air is forced or pumped into this chamber by either a motor mounted directly above this compartment or by a compressor located outside of the tank. Treatment actually occurs as the oxygen mixes with the wastewater that supports the growth of aerobic bacteria. This aerobic bacteria digests pathogens and any solids suspended in the water, resulting in a much cleaner and better treated wastewater.

Below is an example of a typical ATU.



Even though the wastewater leaving the second chamber is treated, it will still contain some very small solids when it enters the third compartment. This compartment is known as the settling chamber, where these few suspended solids will settle out to the bottom and returns to the second treatment chamber for further treatment. Most of the aerators currently installed have an additional filter in the third chamber to filter out any solids that have not settled out of the effluent before it exits the tank.

How Do I Maintain My Aerator?

Every ATU that is sold in Ohio comes with a two year service contract. During these first two years, the service provider (who you bought the tank from) will do service work every 6 months. When you purchase your tank, verify who is going to do the service work and schedule a time to meet with the service provider to watch the first service call. This will allow you to learn "the tricks of the trade" from a professional service provider. The service work usually consists of check and cleaning the motor, checking water, scum, and solid levels in the tank and pumping if needed, cleaning the filter, and checking for tank and leach field integrity. If there are any deficiencies or problems other than routine maintenance, the service provider will notify this office for the proper course of corrective action.

In addition to the two year service contract, any new ATU that is installed after 2007 is required to have a continued service contract for the life of the system. This is required because the maintenance of these ATUs is critical in their performance and longevity. In fact, like your car or other mechanical equipment you own, it is much cheaper to do preventive and routine maintenance than to have to replace the ATU because it has stopped working.

If you notice the motor is not running, the control box alarm has sounded or warning light is on, or if there are other problems with the ATU, please contact the service provider or the health department immediately. The longer you wait to have the system repaired the more potential damage you could be causing to the leach field that may not be able to be fixed.

Just like septic tanks, an ATU needs to be pumped out on an average of 2 to 3 years depending on use. When the aerator is pumped out, each chamber must be pumped out and cleaned. After pumping, it is a good time to take a good look at the ATU. By looking inside the riser, you can see if there is any deterioration of the concrete of the tank. If any is noticed, please contact the health department for further investigation.