

# KNOW THE FACTS!

## HOME AERATION UNITS - JET

### Illustration of your Unit

You currently live in an unsewered area of Hamilton County. The waste from your house is treated by a home aeration unit. These units come in many shapes and sizes. They are sometimes referred to as “cavitettes.” Cavitette is the brand name of one aeration unit used in our county. The other brands used are: Coate Aer, Jet, Multi-Flo, Norweco, and Oldham. Although aeration units have different brand names, the principle of operation is basically the same; air injected into sewage provides agitation and oxygen which allows bacteria to reduce organic waste to carbon dioxide and water.

### Treatment Process

A properly operating home aeration unit will produce a clear, sanitary effluent. The following process is used to achieve that result.

#### *Primary (Pre-Treatment)*

Raw sewage from your home flows first to this chamber or trash tank (See #1). Here, heavy matter sinks to the bottom; fats and oily matter float. Partially treated organic matter is suspended in the middle liquid portion.

#### *Secondary (Aeration)*

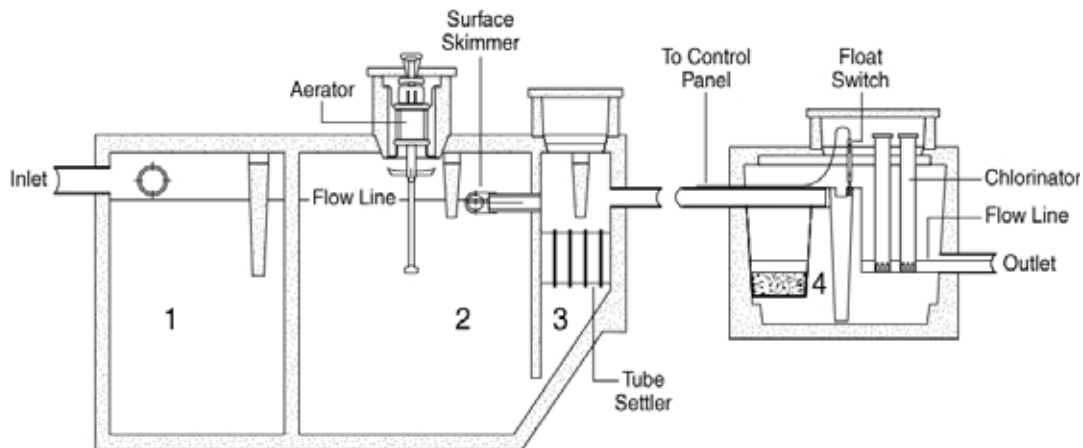
In the center chamber (#2), injected air provides agitation and oxygen to aerobic bacteria which reduce organic matter in the wastewater.

#### *Clarification/Settling*

The third chamber (#3) has no agitation so suspended solids remaining in the aerated sewage can settle. This chamber is angled so solids return to the aeration chamber for further treatment.

#### *Tertiary (Filtration/Disinfection)*

The upflow filter is a separate tank (#4). Here clarified sewage is directed to the tank bottom via a cast concrete pipe. From there it flows upward through filter gravel, leaving the tank via a discharge weir. Chlorine tablets stored in a mounted reservoir or a separate container provide disinfection. Older models do not have an upflow filter.



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## JET (cont.)

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### Care of your Unit

Your Jet is a 500 gallon per day treatment plant. Read the manual for your Jet system. To receive a copy contact: Jet, Inc., 750 Alpha Dr., Cleveland, Ohio 44143

*Note:* Some aeration units are installed deep below the surface of the ground. Maintenance to these units poses special safety problems and should be performed by a registered contractor. If you meet the preceding criteria or are uncomfortable with the following procedures, contact a maintenance company registered and bonded with the Health District.

*Lids* - All lids must be accessible and extend 4-6 inches above grade. Check lids for cracks that allow surface water to enter the system or prevent Health District personnel from performing inspections. Lids that cannot be moved without cracking or falling apart must be replaced.

*Pre-Treatment Compartment (1st Compartment)* - Remove lid from over compartment. Lift the internal lid and probe the scum layer with a stick or pole. If layer is hard and/or more than six inches thick, the compartment should be pumped. Replace lids.

*Aeration Compartment* - Remove lid from the aeration riser and check the following:

- Electrical service wire-Replace if wire is frayed or black residue is present.
- Air bubbles-Turbulence in the wastewater indicates aeration is taking place.
- Aeration Motor-If the motor is not running, touch carefully checking for warmth. The aeration motor should be replaced/repared if cold.
- Air Shaft-Should be cleaned periodically by a factory authorized representative. Contact your Jet distributor. Replace all lids.

*Clarifier/Settling Compartment* - Remove lid from clarifier riser. Liquid should be clear, not cloudy or grey. If there is an accumulation of floating material, it should be skimmed and discarded. Replace lid.

*Upflow Filter* - Remove lid from the upflow filter. The filter should be cleaned if floating or suspended solids are present or if effluent is overflowing the concrete trough. All systems should have a chlorinator. To avoid injury when replacing chlorine tablets, follow manufacturer's directions. Replace lid.

*Discharge Point* - Check the discharge point. If discharge effluent is not clear, or black/grey matter is deposited at the discharge point, call a service contractor. Aeration unit discharge points are not appropriate play areas for children even when systems are operating properly.

*Timer* - The timer is located in the home or garage. It should be set to cycle 25 minutes "on" 20 minutes "off." Old timers should be set for 18 hours total running time.

### Managing your Unit

Sewage tank pumpers must be registered with the Health District. The principle purpose of tank pumping is to remove sludge. You may want to be present at the time of pumping to insure all sludge and wastewater is removed. Contracted repairs must be performed by registered professionals. To receive a list of registered pumpers and contractors call the Health District at 513/946-7966.

*For more information, call the Water Quality Division at 513.946.7966 or visit [www.hamiltoncountyhealth.org](http://www.hamiltoncountyhealth.org).*



**HAMILTON COUNTY  
PUBLIC HEALTH**

PREVENT. PROMOTE. PROTECT.

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