

# The Digester

Now With Advanced Oxidation Processing For Lift Stations, Wet Wells, or Grease Traps?

## How It Works!

- Mechanical digestion
- Biological digestion
- Chemical digestion
- Concentrated oxygen (A.O.P.)

A.O.P =  $O^3$  + HYDROXYL RADICALS

**The Digester** is a state-of-the-art system that injects air through a specially designed manifold system constructed of heavy duty non-corrosive material. Atop of this specialized manifold are stationary ridges or blades. As the air travels up and through the digester cylinder, a void is created. With this vacuum effect, solids are pulled in through the bottom of the digester and across the stationary blades or ridges at the top of the unit. At speeds up to 20 meters per second, the solids are immediately emulsified when they come in contact with the blades or ridges resulting in a high degree of breakdown of solids, which greatly increases the digestion process. Ozone can also be injected in this cylinder which further facilitates the digestion process of raw sewage before it enters the wastewater plant. **The Digester uses THREE means of digestion: mechanical, chemical and biological.**

## Mechanical

The mechanical process works as described above by continuously moving the solids at speeds up to 20 meters per second, and accounts for approximately 70% of the digestion process.

## Chemical

While we do not add any chemicals to our process, we recycle the existing household chemicals found in grease traps and lift stations such as soaps, detergents, degreasers, stain removal solvents, drain cleaners, fabric softeners and all of the other household cleaners that are discarded down the drain. Once discarded, these unused household chemicals become stratified or separated in the water column within the lift station and have little to no effect in the digestion process. We have a unique way of blending all these existing chemicals / components together to further break down the grease and other matting which occurs naturally in lift stations. This is a key component of our green technology, recycling. It is estimated that the chemical digestion accounts for 20 to 25 % of the digestion that will be occurring in the lift station after the The Digester is installed.



Solving Specialty WasteWater Problems  
with **Innovative Green Technology!**

  
Norwood Waterworks

## Biological

The biological digestion is further enhanced by reducing the BOD and COD. By continuously injecting 12.7 to 14.2 m<sup>3</sup>/min of warm fresh air into the water column, we are able to stimulate or enhance the activity of the microbes / Bugs. This enhancement of the aerobic environment further propagates good bacteria growth. It is estimated that this portion of the digestion process may account for 10 to 15% of the digestive process.

## Ozone Advanced Oxidation Processing

Known as A.O.P., Ozone and hydroxyl radicals are combined to form one of the most powerful and effective oxidation agents known to man. Hydroxyl radicals are much more potent than ozone. When hydroxyl radicals are combined with ozone, reaction times are 300 - 500 times faster, 200-300% more effective and they have a half life between 10 to 15 minutes.

### Advantages of A.O.P.

- Most powerful disinfectant and oxidant readily available
- Does not produce harmful by products
- Reduces contaminants to inert compounds
- Removes heavy metals
- Kills deadly bacteria & viruses (all forms of hepatitis)
- Removes pharmaceuticals in waste water
- Removes H<sub>2</sub>S gas and all other mercaptans
- Increases dissolved oxygen
- Eliminates F.O.G. (Fats, Oils, & Grease)
- Eliminates use of all other chemicals
- Removes arsenic
- Provides cleaner/ sanitized environment for workers

### Benefits

- Eliminates grease build up and Matting
- Eliminates Pumping of Wet Wells & Lift Stations
- Pre-treats raw sewage
- Removes FOG's (Fats, Oils, & Grease)
- Reduces Sludge build up
- Removes most VOC's and Heavy Metals
- Reduces H<sub>2</sub>S Gas build-up by up to 99.5 %
- Reduces odor up to 99%
- Reduces labor cost by up to 90 %
- Operates in minimum of 60 cm of water
- No moving Parts / Air Driven
- No chemical additives
- No petroleum lubricants
- Low to No Maintenance
- Extremely low noise level (50 DB)
- Low Operating Cost
- Heavy Duty Non-Corrosive Construction
- No Electricity in or close to water
- Installs in 10 minutes
- Light weight
- Portable

### PRICING

Digester	Single Phase	Three Phase	Add on for A.O.P.
1 HP	Call for Pricing	Call for Pricing	Call for Pricing
2 HP	Call for Pricing	Call for Pricing	Call for Pricing
3 HP	Call for Pricing	Call for Pricing	Call for Pricing
4 HP	n/a	Call for Pricing	Call for Pricing

All prices are subject to change without notice.

- Digester Unit • Motor Cover • Air Filter System
- Blower Motor • At least 6 meters of flex hose
- Cam-lock fittings • 1 Year Warranty

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### A.O.P Includes

- H.D. Aluminum Cabinet
- NEMA 3 Electrical Box
- O<sub>3</sub> Generator
- Prewired



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