

Radical Odor Control Technology

with Advanced Oxidation Process



Proven Odor Control Technology

- Treats Odors, Fats, Oils, Grease & Corrosion
- Designed for enclosed or partially enclosed areas
- No chemicals or biosolutions required
- Minimal startup & operation costs
- Easy installation & low maintenance



Vapex™ systems have been successfully installed in hundreds of locations

The Vapex™ odor control system with its patented air atomizing three-fluid nozzles enhance the Advanced Oxidation Process by creating hydroxyl radicals ($\cdot\text{OH}$), the most potent oxidant used in odor treatment.

Vapex™ combines ozone, water and air to create a hydroxyl radical fog that is efficiently dispersed throughout enclosed or partially enclosed spaces, such as lift stations, wet wells, holding tanks, diversion boxes, and headwork areas.

Vapex™ odor control systems treat offensive odors in place greatly reducing energy consumption costs. Vapex™ units have a small footprint, require minimal water and electricity, and are extremely quiet.

Proven

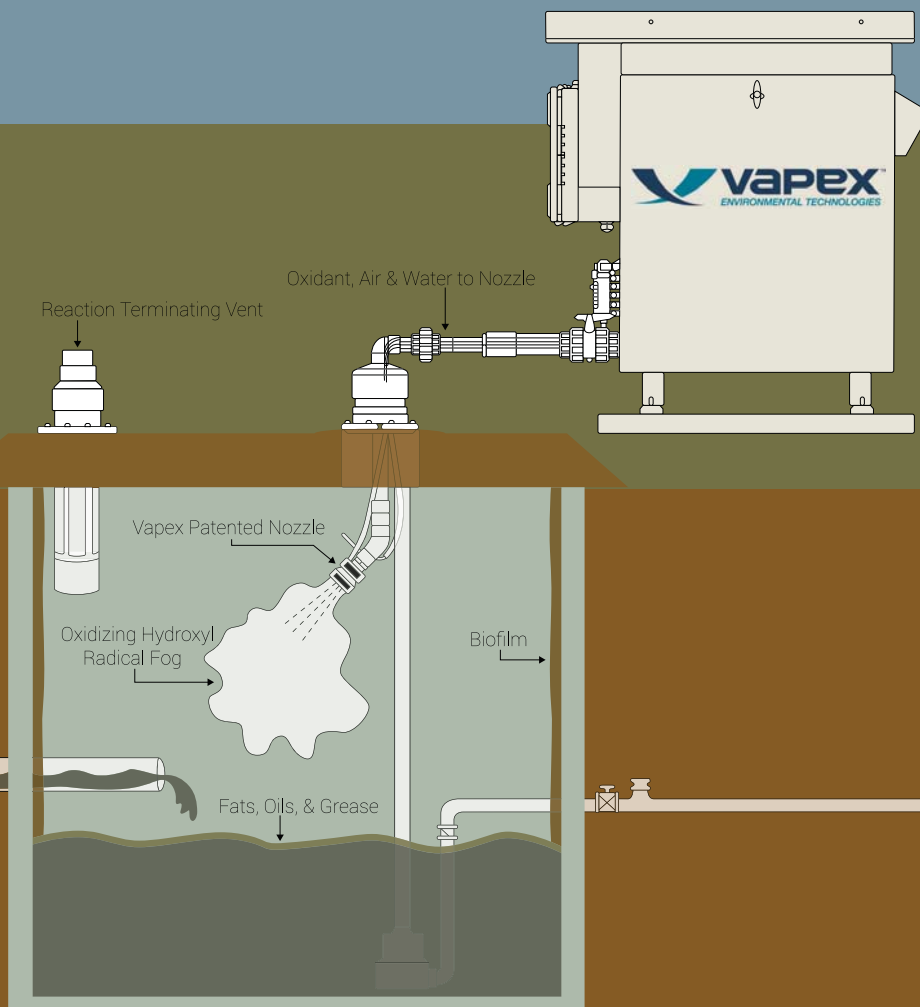
An independent university study found that hydroxyl radicals are being produced by combining the micro-sized water particles and ozone.

Accepted

Major engineering firms and a state EPA have determined that Vapex™ technology is an effective method to eliminate odors and remediate FOG.

Established

Over the past 10 years, a number of major municipalities have standardized on the Vapex™ technology.



Eliminate Odors

Vapex™ technology oxidizes odorous compounds where they are generated. Combining ozone and micron-sized water particles produces hydroxyl radicals that react quickly with odorous compounds like reduced sulfur compounds, amines, and ketones.

This technology is customizable to meet varying installation requirements and can be installed indoors or outdoors. The hydroxyl radical fog results in almost instantaneous odor reduction.

Fats, Oils, & Grease Prevention

Vapex™ technology remediates Fats, Oils, & Grease by breaking the double carbon bonds that form the fatty acid chain. By breaking the bonds, FOG does not reform downstream. By reducing and eliminating surface Fats, Oils, and Grease odors are also decreased significantly.

FOG decreases capacity and affects process in addition to being expensive for removal and disposal. Continuous treatment prevents Fats, Oils, and Grease from collecting on the surface of the process water and walls.

Disinfect & Decrease Rate of Corrosion

Vapex™ oxidation process eliminates biofilm on surfaces that lead to costly infrastructure destruction. Surface pH in wet wells can be as low as 1, however, the powerful oxidant fog covers the entire surface killing Thiobacillus, the bacterium that converts H₂S to sulfuric acid, raising the pH and preserving the infrastructure.

In addition, the hydroxyl radical essentially kills all bacteria and viruses disinfecting the treatment area.

Base Model Features

- Powder Coated Aluminum cabinet
- Insulated cabinet

- Patented nozzles
- Individual oxidant control for each nozzle
- Dry contact relay for SCADA connection
- Timer based oxidant control

- Auto-draining moisture removal system
- Pressure & Flow based oxidant shut off
- 1-year mechanical warranty

Benefits

- Treats high concentrations of hydrogen sulfide, mercaptans, and amines
- Eliminates odor complaints – Rapid reaction with odorous gasses

- Reduces rate of corrosion in the infrastructure
- Remediates Fats, Oils, and Greases
- No chemical storage or handling
- Quiet Operation

- Easy installation and straightforward to operate
- Environmentally friendly – Reacted chemistry condenses safely back into influent stream
- Low installation, maintenance, and operational costs

Applications

- Pump Stations/Wet Wells/Lift Stations
- Junction Boxes & Siphons

- Interceptors
- Manholes
- Sludge Holding Tanks
- Grease and Scum Pits
- Grit Chambers

- Covered Primary Clarifiers
- Holding, Retention & Equalization Tanks
- Headworks Channels
- Rotary Screens

Options

- Stainless Steel enclosure
- HMI/PLC

- Modem & Remote Monitoring
- Ergonomically designed pedestal mount
- UL Listing

- Extended mechanical warranty
- Quarterly Maintenance Program
- AOP Terminating Vent



NANO



MICRO



MILLI



Nozzle



Enclosure



Reaction Terminating Vent

Specifications	NANO	MICRO	MILLI
Maximum Treatment Volume, ft ³ (m ³)	10,000 (283)	26,000 (736)	42,000 (1190)
Maximum Number of Nozzles	2	4	6
Oxidant Output, lbs/day (kg/day)	≤ 1.0 (0.454)	≤ 2.5 (1.134)	≤ 3.5 (1.587)
Average H ₂ O Usage, gallons/hour/nozzle (l/hr/nozzle)	8 (30)	8 (30)	8 (30)
Air Output, cfm @ 2 psi/nozzle (m ³ /hr)	40 (68)	40 (68)	40 (68)
Material of Construction*	Aluminum	Aluminum	Aluminum
System Dimensions, L(m) x W(m) x H(m)	1.02x0.43x1.194	1.17x0.89x1.194	1.17x0.89x1.194
Average System Weight, lbs(kg)	160 (72.5)	250 (113.4)	355 (161)
Power Requirements			
Volts, VAC	240	240	240
Average Current Draw, A	17 or 11	18 or 12	22

*All units are TGIC Polyester Powder Coated, Stainless Steel Available



Contact Emission Treatment Solutions on **+61 3 9706 5958** to determine which Vapex™ unit is best suited to eliminate odors, remediate FOG, and decrease corrosion for your application.