



Providing Treatment Solutions for Air, Water, & Land

www.TheiaLLC.com

(888)330-2260

The OxyStrip System

No Clogging, No Fouling, No Maintenance

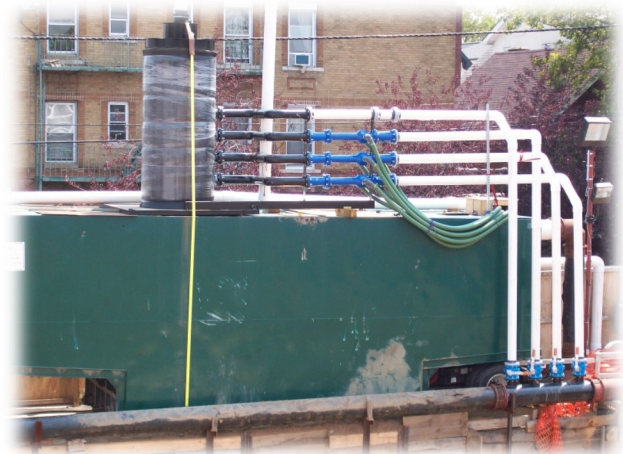


Theia Water offers a revolutionary stripping and oxidation system for removing Volatile Organic Compounds as well as dissolved gases such as Radon and CO₂. The OxyStrip system is also effective at eliminating H₂S (Hydrogen Sulfide) and oxidizing iron and manganese.

Unlike other air strippers, this system will never clog or foul and requires very little maintenance. The OxyStrip system does not use perforated trays or packed towers but still packs a punch that will typically meet the high removal efficiencies that this technology is known for.

The OxyStrip system boldly goes where most air strippers would not even dare to try. High Iron, chlorides, and particulate loading do not even represent a challenge for this system. As a matter of fact, if your application has a high level of iron, we place the system UPFRONT as the primary step.

This Unique stripping system utilizes our Oxygenator nozzle set up in a stripping configuration as well as standard centrifugal pumps and an induced draft blower. The system will never clog or foul and the only maintenance requires is the standard maintenance on the rotating equipment. We offer hopper bottom designs for applications with high Iron and Manganese and/or solids loading which allows the operator to draw out these settled solids without ever opening the tank or even shutting down the system.





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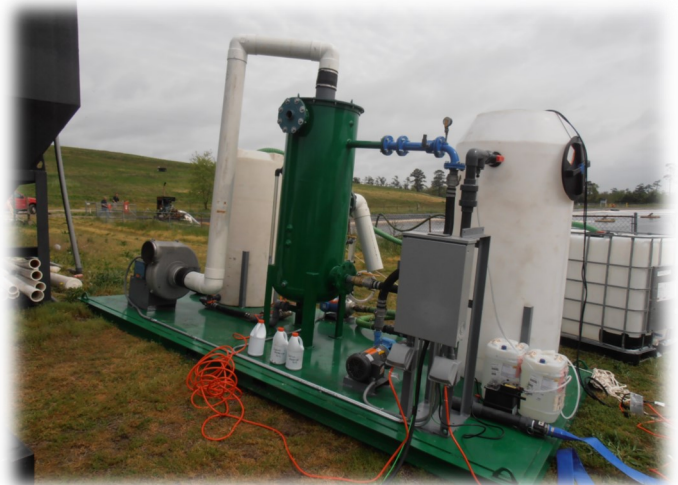
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Theia Water understands that the market is full of companies making claims about non-clog or non-fouling equipment. We welcome any challenge with our system. In the meantime, you will find below a few images which may make you a believer.

The pictures directly below are from a site in North Carolina where we were stripping Ammonia from raw leachate. The pictures at the bottom are of oxidizing Hydrogen Sulfide that is present in raw septage and stripping VOC's from muddy water from dewatering of an excavation: As you can see, solids are NOT an issue for us !!





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The Key: the main stripping vehicle for this system is our unique Oxygenator nozzle. The nozzle induces a strong vacuum when water is pumped through it. This vacuum draws air into the fluid passing through it in a very high intensity mixing and shearing zone. The vacuum combined with the turbulence is strong enough to strip 40% to 70% of compounds in the water with one pass through the unit. The OxyStrip System is configured to allow the required number of passes to achieve the target removal.

The highly turbulence and kinetic energy of the water leaving the nozzle is utilized to increase the stripping efficiency further as dictated by the application. High velocity air is drawn through the system to allow the separated compounds to be drawn away and to add stripping energy to the system. The stripping tank can be fabricated in a variety of shapes and from a variety of materials.

So why should you use an OxyStrip System?

- ♦ Virtually no Maintenance: NO FOULING
- ♦ Performance is consistent – we do not lose efficiency because of fouling
- ♦ Large flows are no problem
- ♦ Iron and Metals Treatment and stripping in one system
- ♦ Ideal for Retrofits – we can often use an existing tank
- ♦ Easily configured for your application
- ♦ Choice of tank designs and materials





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Metals & Solids Removal: The high levels of induced D.O. (dissolved oxygen) will typically oxidize most or all of the iron coming into the system in a single pass, allowing it to drop out of solution. This eliminates the need to introduce separate oxidizing agents like peroxide, or inversely, the need for sequestering agents to keep the iron in solution.

When iron removal is part of the process, we actually design the OxyStrip system to handle the front end of this process. That is, we oxidize the iron using the Oxygenator nozzle and then add coagulants, etc in the subsequent stages. The Oxygenator is the most powerful mixing system in the market and will activate and integrate even difficult polymers.

For those applications where both arsenic and iron are present, we can co-precipitate the arsenic using the iron that is present (if sufficient) and if necessary supplement the iron with a precipitating agent.

We offer hopper bottom tanks to go with these systems which aid in settling these metals and allow the used to extract the solids without even shutting down the system. Thus, all the solids and iron that would normally be clogging up your air stripper, fall harmlessly to the bottom of our storage tank.



Cone Bottom
Stripping Tank



Sludge Removal

