

THE BREEZE®



Volatile Organic Compound (VOC) Removal and Air Stripping System

The Breeze Air Stripping System is a highly efficient technology capable of removing nearly 100% of VOCs and other gases dissolved in water.

The Breeze is a low-maintenance, low-cost alternative to filters, packed towers, and mechanical aerators. Single units can handle flow rates up to 200 GPM (757 LPM). The Breeze works well in stand-alone mode or in a series with other treatment technologies.

Breeze Features

- ▶ Removal rates as high as 99.99%
- ▶ Add multiple units for higher flows
- ▶ Seven tank sizes available with three to nine aeration chambers
- ▶ Tank diffusers resist fouling caused by iron, calcium, and biological activity
- ▶ Stackable, moveable, and compact
- ▶ Works as stand-alone system or with other treatment technologies
- ▶ Easy routine maintenance and access to the diffusers

Breeze — How it works

The Breeze VOC Removal system consists of a high-strength polypropylene or stainless steel tank, air blower, internal air header, and patented non-fouling Cyclone® II diffusers. Contaminated water is fed into the Breeze air stripper tank and is forced to flow in a serpentine pattern into uniquely designed multiple aerated chambers. The blower provides air to the diffusers, which releases specifically-sized air bubbles. The rising bubbles and turbulence provide the air-to-

water interface needed for exceptional air stripping and contaminant removal without the need for packing or media. The serpentine water flow maximizes detention time and increases the air-to-water contact. A blast gate throttle allows the user to ramp up air flow rates to provide operating safety. The system can be operated with an induced draft or positive displacement blower and either coarse or fine bubble diffusers. The unique weir plate and quiescent chamber maintains proper water level and performance without complicated electrical controls.

Project: Well Water Contaminated with Radon and Carbon Dioxide

Background

The drinking water supply of a small town in Maine contained high levels of iron, carbon dioxide, and radon. The radon level was 1200 pCi/L and carbon dioxide levels were causing the water to be acidic, resulting in excess corrosion of pipes and treatment equipment. The town needed to both raise the pH of the water by removing carbon dioxide and reduce radon levels to meet safe drinking water standards in order to provide 700 GPD of clean drinking water to the community.

Solution

RWL Water provided four Series Six Breeze Compact Air Strippers with 5 HP air blowers to treat the drinking water supply. First, the water from the well was treated with sodium silica to help suspend iron. Next, the water was fed directly into the four breeze units operating in parallel. As the water passed through each Breeze tank, the carbon dioxide and radon were stripped and vented into the atmosphere. The Breeze Compact Air Strippers continuously removed Radon from 1200 pCi/L to 18 and removed the carbon dioxide so that the pH changed from 6.4 to 7.3.

Project: Well Water Contaminated with Carbon Dioxide

Background

A church and school located in New Jersey discovered a low pH in their well water, caused by high levels of carbon dioxide. The New Jersey State Department of Environmental Protection quickly became concerned when further testing showed other water quality problems. The school averaged at least 3,000 GPD of total water usage and needed a solution fast. Initially, the church/school tried to use caustic chemicals to treat the water. This method increased sodium levels in the water and proved to be unreliable. They also considered installing acid neutralizer filters but concluded the filters would add too much calcium to the water and take up too much space.

Solution

RWL Water provided one Series Three Breeze VOC Removal system which removed the dissolved CO₂, and as a result, raised the pH level of the water, satisfying state drinking water standards. As water flows into the Breeze at 30 GPM from the well pump, the blower turns on. The outlet port of the blower is attached to the manifold of the Breeze unit. Air is passed from the blower, through the manifold, and to the Cyclone coarse bubble diffusers. As the air passes through the diffuser, it is sheared into many small bubbles, scrubbing CO₂ from the water as the bubbles rise to the surface. The air is then directed out the outlet port on the rear of the tank. Since installation, the Breeze system has been consistent and reliable.

Sample of Contaminants the Breeze System Removes

Benzene	Chloroform	Toluene	1,1-dichloroethylene
Ethylbenzene	c-1,2-dichloroethylene	p-Xylene	t-1,2-dichloroethylene
BTEX	1,1,1-trichloroethane	Trichloroethylene (TCE)	1,2-dichloroethane
Tetrachloroethylene (PCE)	Methane	Naphthalene	Carbon Tetrachloride
Vinyl Chloride	Radon	Methylene Chloride	Carbon Dioxide

RWL Water can recommend configurations best suited for your application.

RWL Water has more than 90 years of combined experience building highly successful water, wastewater, waste-to-energy and reuse treatment solutions for diverse industries and municipalities around the world.

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