



BREEZE[®]

VOLATILE ORGANIC COMPOUND (VOC) REMOVAL & AIR STRIPPING SYSTEM



Efficiently Remove Contaminants from Water or Wastewater

Fluence's Breeze air stripper serves as a low-maintenance, cost-efficient alternative for filters, packed towers, and mechanical aerators for fast, efficient removal of contaminants from water and wastewater in a wide variety of applications, including potable water contamination and groundwater contamination.

The Breeze is a highly efficient technology capable of removing nearly 100% of volatile organic compounds (VOC) and other gases dissolved in water.

How the Breeze Works

The Breeze air stripper consists of a tank made of high-strength polypropylene, an air blower, an internal air header, and patented non-fouling CYCLONE® II diffusers.

Contaminated water is fed into the Breeze air stripper tank and forced to flow in a serpentine pattern into uniquely designed multiple aerated chambers. The serpentine water flow maximizes detention time, and increases the air-to-water contact. The blower provides air to the diffusers, and the rising bubbles and turbulence provide the air-to-water interface required for efficient air stripping and contaminant removal, without the need for packing or media. The tank diffusers resist fouling caused by iron, calcium, and biological activity.

Each Breeze tank comes with an adjustable weir plate to maintain proper water levels and performance without the need for complicated electrical controls. The system can be operated with an induced draft or positive displacement blower, using either coarse or fine bubble diffusers.

Single units can handle flow rates up to 200 GPM (757 liters per minute). We've designed Breeze units to be compact, and to leave a small footprint. Multiple units can be placed in a series or stacked vertically to handle almost any flow rate.

Breeze Features

- Removal rates as high as 99.99%
- Compact and stackable framework, equipped with handles for easy transportation or relocation
- Seven tank size availability, with three to nine aeration chambers
- Stand-alone system functionality and interface capability with other treatment technologies
- Stainless steel or polypropylene construction
- Entirely removable cover, which provides access to the diffusers and easy routine maintenance

What Contaminants Can the Breeze Remove?

The Breeze air stripper removes the following contaminants, and more:

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



Project Case Studies

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

Fluence 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 Case Studies

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

Fluence 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.

At Fluence, our applications engineers are devoted exclusively to helping treatment plant operators, consulting engineers, and contractors worldwide. With decades of expertise, and industry-leading aeration and mixing technologies, our experts can help you find the right aeration solution for your unique challenges.

Contact Fluence for more information about the Breeze air stripping system or to request a quote.