

# CASE STUDY

## *BREEZE® VOC Removal System Eliminates CO<sub>2</sub> from Well Water*

### PROBLEM

A Catholic church and school located in Kinnelon, New Jersey, U.S.A., discovered a low pH in their well water caused by high level of CO<sub>2</sub>. 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 gallons per day of total water usage. They 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

In late fall of 2006, the facility installed one Series 3 BREEZE® VOC Removal System in a brand new well house engineered and built by Design Engineers of Hackensack, New Jersey. Since installation, the BREEZE system has been consistent and reliable. The BREEZE aeration method removed the dissolved CO<sub>2</sub>, and as a result raised the pH level of the water; satisfying the State drinking water standards.

The customer was very pleased to see these results and appreciated the minimal engineering research necessary on their part thanks to AEROMIX. The technical support they received from our engineering team was "gratifying". "Your product works as well as you say it does" the customer commented.



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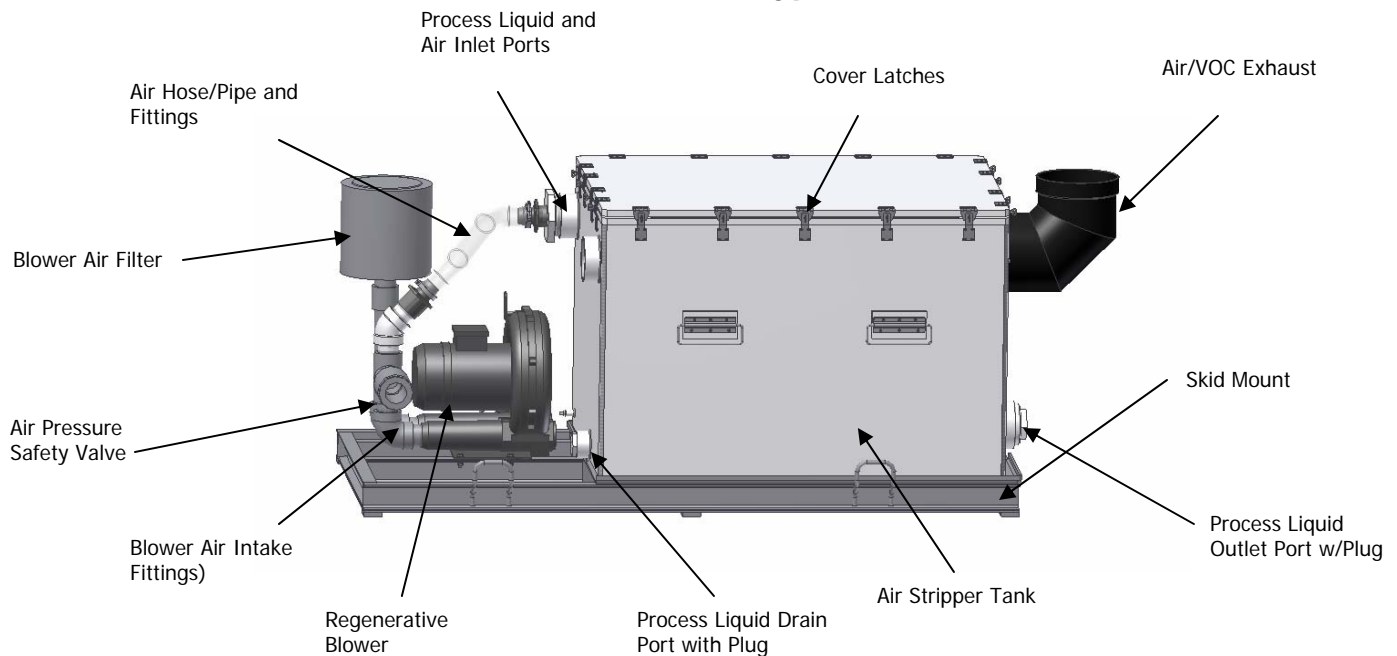
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### HOW IT WORKS

In this particular application, water flows into the BREEZE at 30 GPM from the well pump WellMates™. Simultaneously, the blower comes 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 CO<sub>2</sub> 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.

The BREEZE VOC Removal System uses air to volatilize compounds in water. This compact, low profile device can handle contaminated water flows up to 50 GPM on a continuous basis. The BREEZE works well in a stand-alone mode or in series with other treatment technologies. Multiple units can be placed in series or parallel to handle most any flow rate and achieve superior performance.

### Typical BREEZE Unit Installation



AEROMIX Systems, Incorporated has been designing and manufacturing rugged and reliable water and wastewater treatment equipment since 1987. Contact Melauna Estrada for more information on our water and wastewater equipment.

AEROMIX would like to acknowledge and thank Design Engineers – Hacksensack, NJ for their permission to create this case study and assistance in providing all the necessary details of the project.

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