

## Quattro-DB™ & Mezzo-DB™ Ultrasonic Algae Control Transducers

### Powerful Algae Control

The patented Quattro-DB and Mezzo-DB transducers emit thousands of ultrasonic frequencies.

The Quattro-DB operates on a 360° line of sight pattern.

- Up to 120 surface area acres for Blue-Green Algae
- Up to 17.5 surface area acres for Green Algae
- Up to 2.8 surface area acres for bio-film and diatoms

The Mezzo-DB operates in a bi-directional pattern for narrow channeled applications.

- Coverage up to 75 meters in each direction



### APPLICATIONS

- Lakes and ponds
- Dugout
- Municipal Raw Water
- Industrial Raw Water
- Stormwater
- Wastewater Storage Lagoons
- And more!

### BENEFITS

- Reduces TSS and pH
- Improves water quality and clarity
- Eliminates health risk from cyanobacteria toxins
- Bio-film prevention
- Easy to install and maintain



## Power options

- Low current 120V or 240V
- 24 Vac/Vdc
- Land based solar
- Water based solar



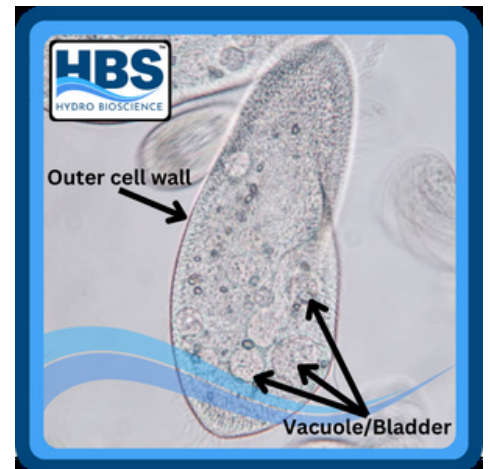
## THE SCIENCE BEHIND IT

ACC's partner, Hydro BioScience®, has developed state-of-the-art algae and bio-film management systems employing advanced and proven ultrasonic sound pressure level (SPL) technology. These patented systems interfere with algae growth cycles, resulting in rapid eradication by natural processes. Selectively chosen ultrasonic SPLs broadcast into the water at levels below that of commonly used depth finders, fetal imaging, or sonar target algae and bio-film. These SPLs prevent algae from going through the necessary process of photosynthesis.

Controlled SPL power levels avoid cavitation and cell lysing (rupturing of algae cell walls), preventing the release of toxins that typically result from chemical treatments. Sound Pressure Level (SPL) energy created by these units also prevents bacteria from colonizing into bio-film as this energy simulates turbulence, an effect that bacteria naturally avoid in nature, which may indirectly affect the presence of nuisance mussels and barnacles.

Contained within each Hydro BioScience® transducer are electronic circuits that generate specific ultrasonic frequencies, low-wattage amplifiers and piezo transducers (similar to speakers). All interior components are sealed entirely in a water-resistant polymer. Powered by safe, low current 120V or 240V power, 24 Vac/Vdc, or solar, these patented units emit over 2000 different frequencies on multiple bandwidths to create an environment of critical structural resonance targeted explicitly at the vesicles (air bladder) located inside the cell walls of algae.

This resonance causes movement inside the vesicles, which are only as thick as a protein layer, resulting in their rupture. This process quickly immobilizes the algae causing it to sink to the bottom of the water column, where it decomposes and is consumed by aquatic life and naturally occurring bacteria. Supplementation with aeration and biological treatment can significantly enhance decomposition.



**ACC Water Solutions Inc.**

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