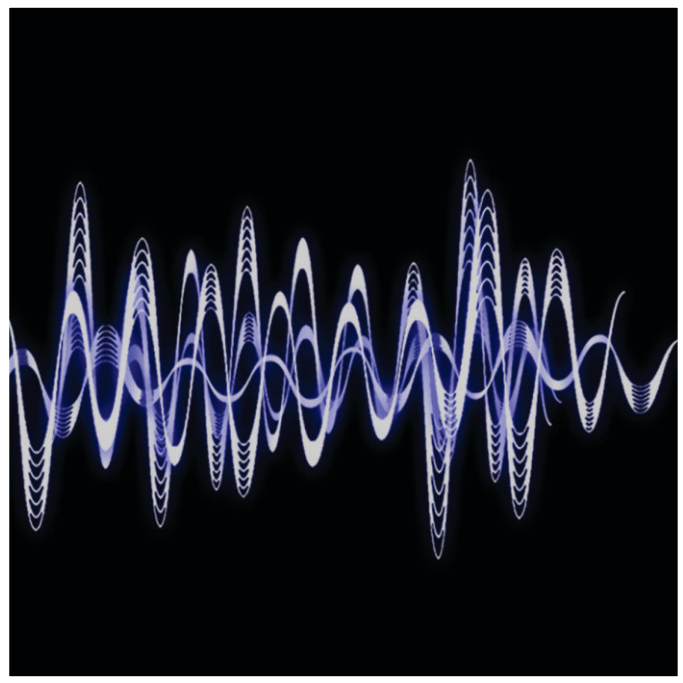




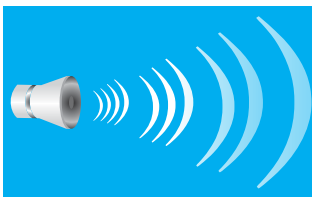
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**||Tathastu||**

Services



ULTRASONIC  
ALGAE AND BIOFILM  
CONTROLLER

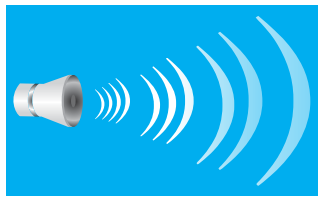


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**||Tathastu||**

**Algae Bluster**

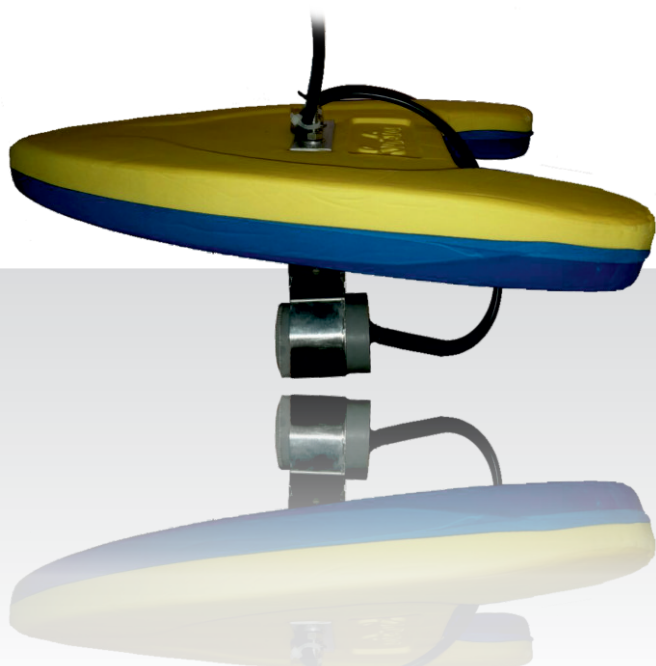
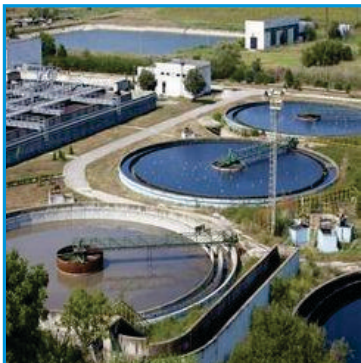
शेवाल नाशक



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**||Tathastu||**  
**Algae Bluster**  
शेवाल नाशक

The Algae Bluster technology is a new generation of ultrasonic devices, which resist algae growth without using chemical.

“The environment friendly way to control algae in all applications”



# ADVANTAGES OF THE ALGAE BLUSTER TECHNOLOGY



## ✓ Controls algae

Strength, safety and efficiency in one product to control algae without chemicals.

## ✓ Controls bio-film

It uses the newest technologies to control bio-film in many applications without using chemicals.

## ✓ Environment Friendly

It's a method to control algae without using chemicals. Besides that, this technology has a very low power consumption.

## ✓ Friendly for fish and water plants

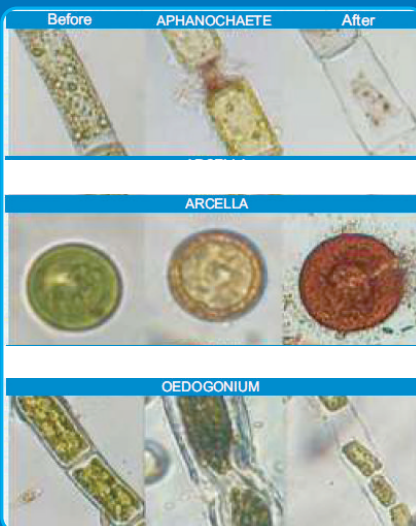
Even though this technology is effective on algae, its completely harmless for other living things present in the water. Various universities have researched the effect of this products on fish and water plants, but no negative effect was found.

## ✓ Effective on large water surfaces

This products can efficiently control algae on large water surface with a power consumption of just 10 Watt. If reservoirs are too large, our biologists can assist you with a detailed plan to install multiple devices for optimal water treatment.

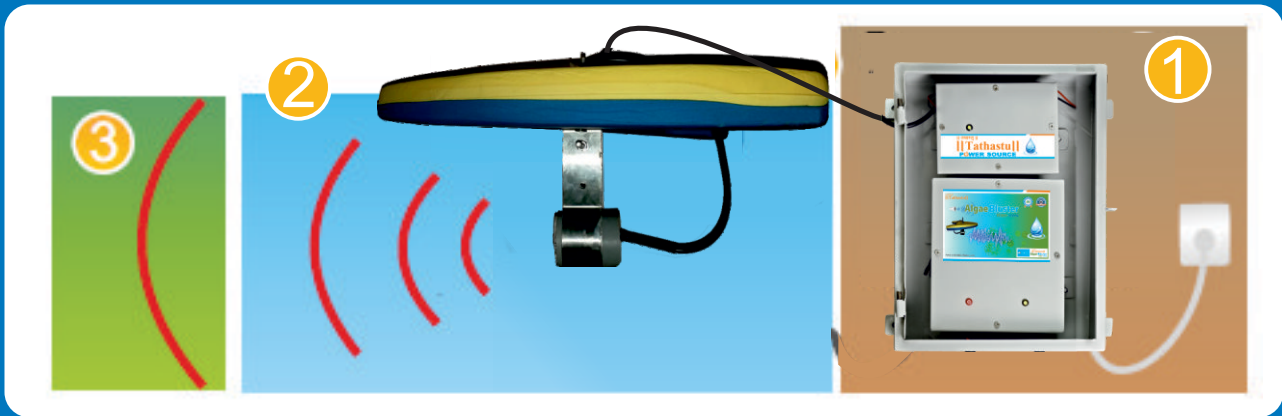
## ✓ Easy to install and maintain

These devices are being placed in the water body itself, emitting sound waves through your water reservoir.



# 3 SIMPLE STEPS TO CONTROL ALGAE

"Your water treatment must be very simple system to control your algae, like **Algae Bluster**"



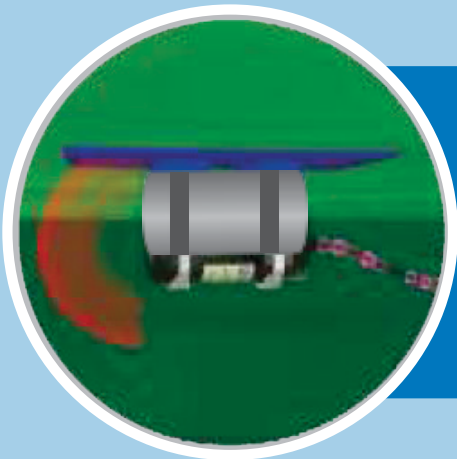
## 1 Generate Ultrasound

Sound pulses are being generated within the power box. The power box generates several different frequencies simultaneously and sends them to the transducer.



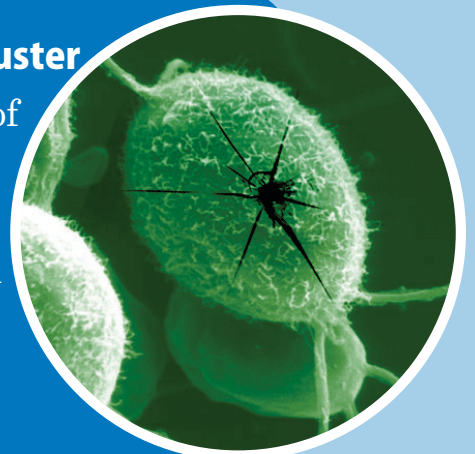
## 2 Transmit Ultrasound

The transducer transmits these sound pulses into the water with a very high sound pressure (dB). The sound waves have different frequencies but all lie in the ultrasound range and are thus inaudible.

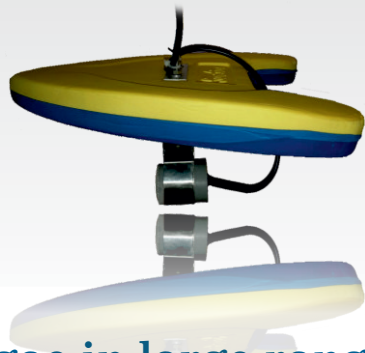


## 3 Damage algae

The high pressure ultrasound emitted by the **Algae Bluster** targets many different algae structures. Components of algae cells, within the long range of **Algae Bluster**, oscillate on the sound frequencies. This leads to tearing of different cell organelles such as the cell wall or membrane and the gas vesicles of algae. Because of many frequencies are used simultaneously different species of algae can be controlled.



# BENEFITS OF THE ALGAE BLUSTER TECHNOLOGY



## ✓ Controls algae in large range

One device can control algae in large range. Multiple devices can be used for applications more than larger range.

## ✓ Weatherproof control box

Completely innovated aluminium control box to better protect the electronic circuit from weather influences. It has better cooling capabilities and is water resistant.

## ✓ Low Power-High Signal Technology

We feel that the strength of a sound wave is in their shape and transmissions and not in the power we put into them. Due to this technology the devices are able to send out a sound signal under optimal conditions. This makes it possible to apply low power to obtain a long range.

## ✓ Highly advanced transducer

The transducer has been specially manufactured for Sound and has a protected formula. The transducers have been designed to gain the highest efficiency in transmitting the sound energy into the water.

## ✓ Easy to install

The devices are very easy to install. After delivery the product can be installed immediately in a water reservoir.

## ✓ Low energy consumption

Due to the highly advanced technology the devices use a maximum of 13 Watts.

## ✓ Low maintenance

Devices have very negligible maintenance.

## ✓ 3 years guarantee

The devices have a guarantee of 3 years. Smaller models have a 2 years guarantee.

## ✓ Multi Frequency technology

Controlling one type of algae in a water reservoir often means another type will have a better chance to grow. Hence it uses the Technology, which produces multiple frequencies simultaneously, controlling several algal species at the same time.

## ✓ Solar system available

The devices can operate on 24 or 36V using only 10 Watt and are thus capable to operate on a solar system.

# HOW THE ALGAE BLUSTER TECHNOLOGY WORKS



In the Algae Bluster there are two parts:

1. **An electronic power box**
2. **Ultrasonic transducer**

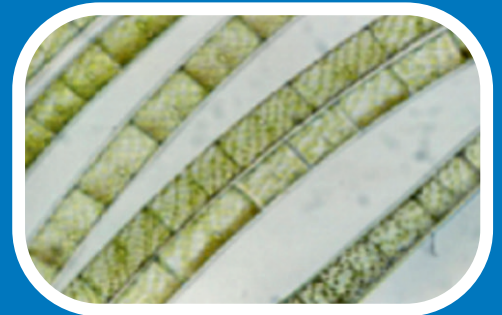
## 1. An electronic power box

An electronic power box generates sound pulses. Because of the technology used in the power box, it is possible to generate several different frequencies simultaneously and send them to the transducer.

## 2. Ultrasonic transducer

The ultrasonic transducer is placed in the pond or lake in a position, just below and horizontal to the surface of water. It emits these different ultrasound frequencies into the water. When these high frequency pulses hit algal cells, the cells begin to oscillate with these frequencies. If the algae has a gas vacuole, then this vacuole also starts to oscillate with resonating frequencies to such an extent that it continues to increase in size. Then there comes a point when the vacuole becomes unstable and breaks down, making the algae sink to the bottom of the pond. Algal species which don't have gas vacuoles react differently. The vibrations from the ultrasound cause the inner cell wall of the algal cell to become separated from the outer cell wall. This means that water, gases and nutrients can neither be absorbed nor expelled and as a result the algae dies. The pictures below demonstrate the effect of ultrasound on the cell structure of *Spirogyra* as mentioned above. It can clearly see how the plasmalemma becomes separated from the outer cell wall.

*Spirogyra* cells



After 7 days



After 14 days



# AGRICULTURE



## ✓ Controls algae

To control algae in Agriculture pond, **Algae Bluster**, is the only technology with strength, safety and efficiency in one product. Algae are the main reason for serious problems in Agriculture ponds. This can be controlled easily with the **Algae Bluster**.

## ✓ Effective on large water surface

**Algae Bluster** is efficiency control algae with very low power consumption on the large range.

## ✓ Environment friendly

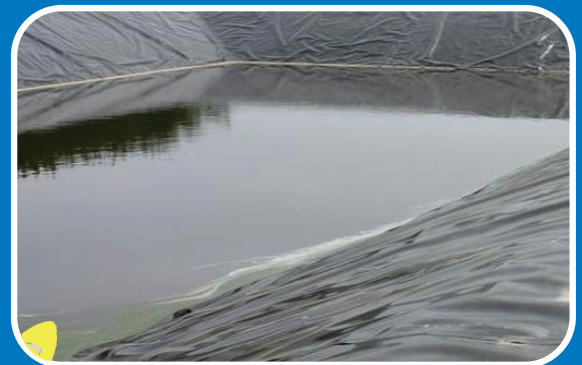
**Algae Bluster** controls algae by keeping environment safe. Using **Algae Bluster** in Agriculture ponds the nature balance between all living things will be restored leading to a healthier and more stable environment.

## ✓ Solar power operated

In Agriculture where power source is not available **Algae Bluster** can be installed on solar system.

## ✓ Easy to install and maintain

The installation of the devices is easy and there is hardly any maintenance necessary.



# IRRIGATION



## ✓ Controls algae

Algae growth in water reservoirs can be controlled without chemicals or labor, with the **Algae Bluster** technology. The sound signals produced by the **Algae Bluster** technology are so strong that they can even control algae in reservoirs with a low retention time.

## ✓ Prevent clogging of filters

It is mostly algae that clog filters, drip installations and nozzles. Prevent frequent maintenance to your system due to algal growth with this technology.

## ✓ Effective in tanks

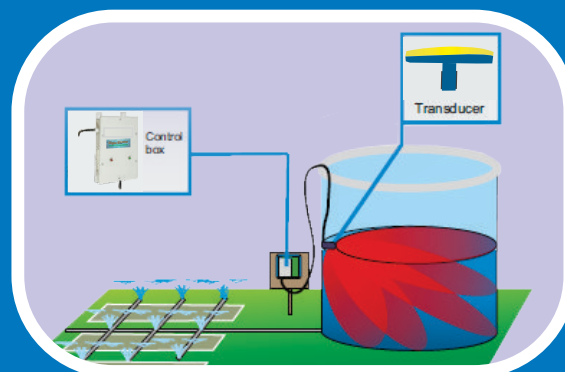
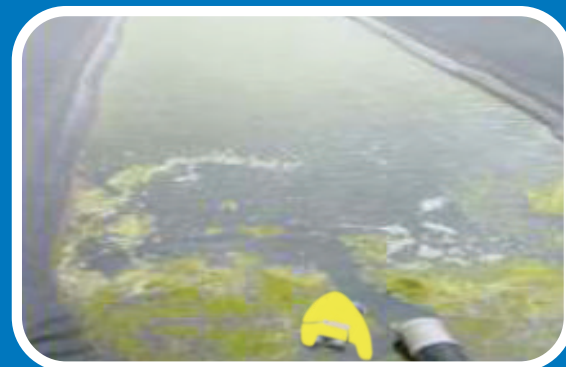
**Algae Bluster** uses the technology which enables the devices to affect several different algal species within a second. Therefore this technology works fast and efficient enough to be applied on tanks with a low retention time.

## ✓ No maintenance

The **Algae Bluster** devices are maintenance free.

## ✓ Easy to install

Placement of the **Algae Bluster** devices involves only placing the device in the water & turning it on.



**Typical installation**  
Directly in the water reservoir

# LAKES



## Controls algae

To control algae in large lakes, this is the technology which combines strength, safety and efficiency in one product. Algae are known to cause serious health problems & make use of a lake nearly impossible. This can be controlled efficiently with this products. Algae, whether filamentous or suspended, are affected by this technology.



## Effective on large water surfaces

This technology product is efficiently controls algae with a range of 186 meter with a power consumption of just 10 Watt. For larger lakes, our professional biologists can assist you with a detailed plan to install several devices for optimal water treatment.



## Beneficial to environment

This technology controls algae by keeping environment safe for humans, animals, water plants and insects. Using this device in a lake, the natural balance between all these living things will be restored leading to a healthier and more stable environment.



## Solar power available

In lakes where power source is not available these devices can be installed on a solar system. The technicians working with us can advice you on the best installation for your application.



## Easy to install and maintain

The installation of the devices is easy and there is hardly any maintenance necessary.



# POND



## ✓ Controls algae

Forget removing off algae and start enjoying your pond. Algae growth in your pond can now effectively be controlled with this technology. Clearing up ponds in only a few weeks and will be kept clean with one of the products.

## ✓ Friendly for fish, water plants & insects

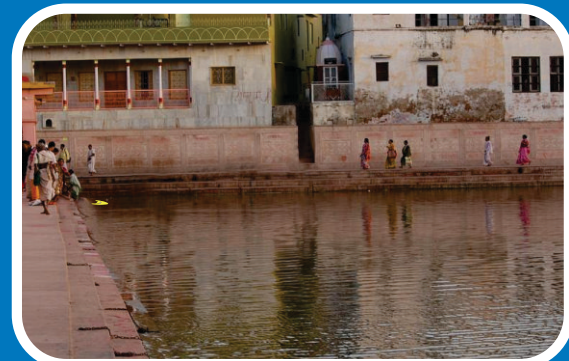
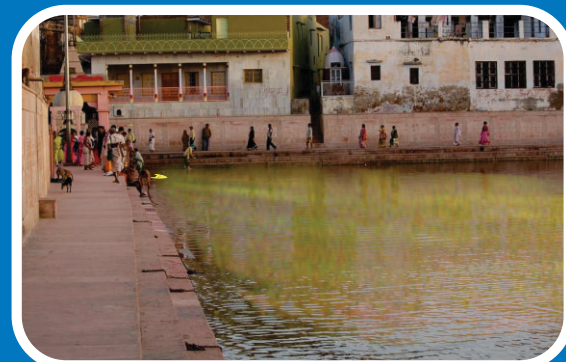
This technology is tough on the algae in your pond yet completely harmless for other living things present in the water. Various universities have researched the effect of this products on fish, water plants and insects but no negative effect was found.

## ✓ Easy to install and maintain

This products work on the total surface of the pond. Installation of an extra pump or other system is not necessary, the products can just be placed in the pond. After installation these devices are maintenance free.

## ✓ Environmentally friendly

This products can be used without chemicals and have a very low power consumption hence completely environment friendly.



# SWIMMING POOL



## ✓ Controls algae

Controls algae on environment friendly manner without causing any harm to humans or animals.

## ✓ Effective against black algae

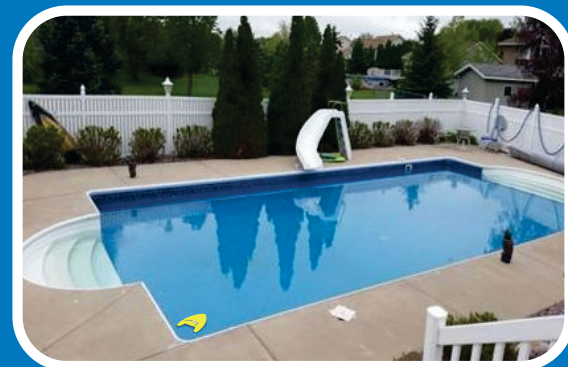
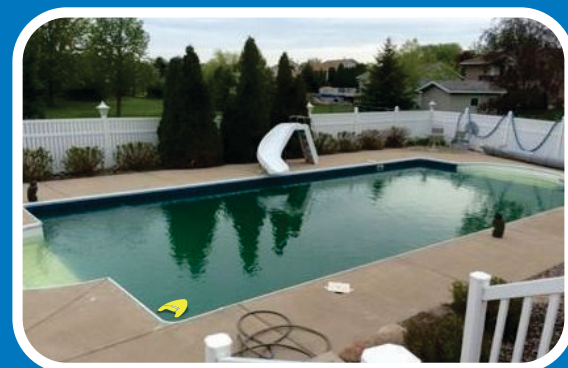
Black algae, which stain your pool walls & floors become easy to remove once treated with the **Algae Bluster**. After removing the layer of algae from the walls, this technology will prevent them from growing back.

## ✓ Reduces Bio-film

A bio-film, the slimy attachments on the sides of the pool, will loosen and can be cleaned easily due to the sound waves produced by the **Algae Bluster**.

## ✓ Reduction of chlorine

Controlling algae and bio-film in your swimming pool, the **Algae Bluster** technology will assist you in reducing the chlorine treatment in your swimming pool. Experience healthier water to swim in with the Algae Bluster technology.



# WATER TREATMENT PLANTS



## ✓ Controls algae

Algal growth in clarifiers, sand filters or filter basins can be controlled without using chemicals. **Algae Bluster** Sound provides special industrial models to control the growth of filamentous and suspended algae in water treatment plants.

## ✓ Improves sludge reduction

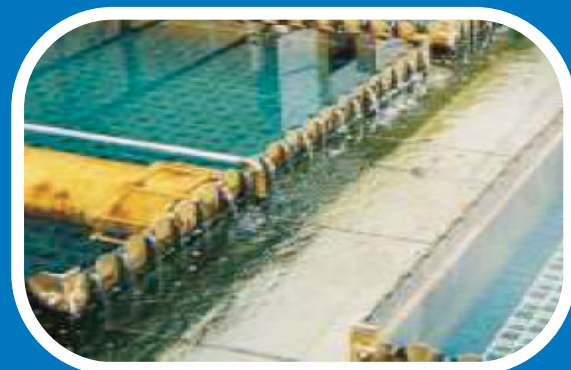
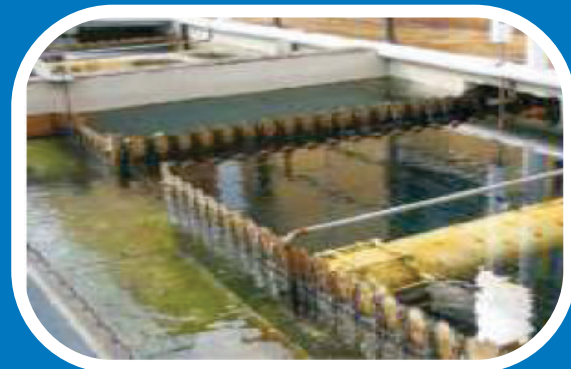
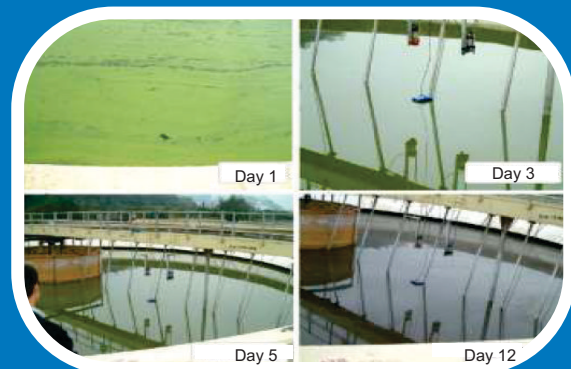
The **Algae Bluster** technology doesn't harm bacteria in charge of sludge reduction. Various studies have proven that the **Algae Bluster** technology, combined with a bacterial treatment of both aerobic and anaerobic bacteria leads to a faster sludge reduction.

## ✓ Better interaction between both solids and bacteria

A higher interaction surface between dissolved solids & bacteria can be established in DAF or flocculation tanks using the ultrasound produced by the **Algae Bluster**. Because **Algae Bluster** does not harm the bacteria used, sludge reduction becomes more efficient.

## ✓ Environmentally Friendly

With the introduction of this Technology, the **Algae Bluster** devices have an increased strength & efficiency yet only use 10 Watt. Chemical treatment to prevent algal growth becomes hardly necessary and the treatment plant's efficiency can be increased.



# COOLING TOWERS



- ✓ **Controls algae**  
The technology directly controls existing algae and prevents the growth of new algal cells without using chemicals. Thanks to the new **Algae Bluster Technology**, the **Algae Bluster** products can control algal growth in a circuit using only 10 Watt.
- ✓ **Controls bio-film formation**  
The sound waves produced by the **Algae Bluster** are strong enough to inhibit the adherence of bacteria to a surface. EPS, present in an existing bio-film, is directly targeted, degrading the bio-film.
- ✓ **Reduces chemicals**  
The **Algae Bluster** technology effectively controls algae, bio-film and Legionella which diminishes the need to frequently add chemicals, to shock the cooling water.
- ✓ **Improved efficiency**  
Even a small layer of bio-film within a pipe reduces its diameter. This means less water can be pumped around the circuit and more power is needed. Besides that, a bio-film can function as an insulating layer around the grids and pipes, thereby reducing the cooling efficiency of the tower. By reducing the formation of a bio-film, the **Algae Bluster** helps increase the efficiency of the cooling tower.
- ✓ **Prevent damage to pumps and pipes**  
Bacteria present in a bio-film can produce acids, corrosive for metal, or even use metal as fuel. Debris present in the cooling tower water can be collected in the bio-film, leading to damage to pumps and pipes.  
With **Algae Bluster** the formation of a bio-film can be controlled, preventing damage to the system.

# AQUACULTURE

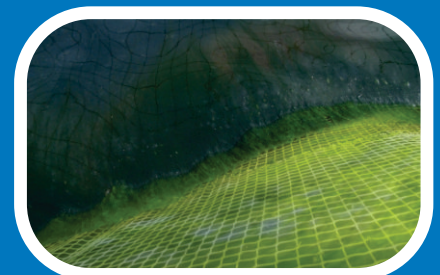


## Inland aquaculture

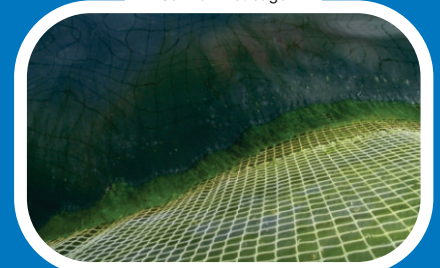
- ✓ **Controls algae**  
The technology will retain a 90% algal reduction in your fish tanks in an environmentally friendly manner without the use of chemicals.
- ✓ **Controls cyanobacterial toxins, MIB and geosmins**  
By controlling blue-green algae growth, toxins & other negative side effects of an algal bloom will be reduced simultaneously with your algal problems.
- ✓ **Reduces TSS, Turbidity, BOD, COD & pH.**
- ✓ **Safe for fish, water plants & insects**  
No negative effects by the **Algae Bluster** products were found on fish, water plants and insects in various studies performed at various universities.

## Open sea aquaculture

- ✓ **Reduces bio-fouling**  
By directly aiming the **Algae Bluster** towards a fish cage the formation of bio-film will be prevented, together with the adherence of algae & other organisms present in the water.
- ✓ **Reduces maintenance of fish cages**  
**Algae Bluster** prevents the fouling of fish cages in open sea, thereby drastically reducing maintenance to the fish cages.



Salmon Net cage



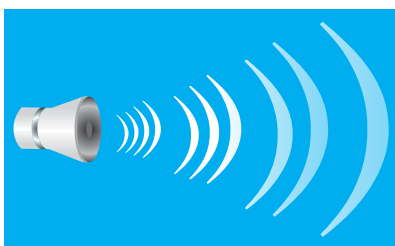


## Knowledge Based Renovation

**Algae Bluster** believes in constantly expanding its knowledge on water quality and ultrasonic techniques. With a better understanding of all biological and chemical processes in watery ecosystems, **Algae Bluster** Sound aims to keep innovating the product to our customers needs. **Algae Bluster** Sound offers biological and chemical knowledge to all her customers before and after sales.

### We care about quality

**Algae Bluster** Sound makes sure that the devices reach our clients in perfect condition! Before a device leaves the company to one of our clients, it goes through several quality controls to make sure that the devices have no technical or designing flaws, nor any other imperfections. **Algae Bluster** Sound offers its customers a two or three year guarantee on all products.



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**Algae Bluster**  
शेवाल नाशक

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