## NOLECULAR OXYGEN INFUSION

A groundbreaking new way to economically boost dissolved oxygen levels in your irrigation system and enhance plant health and production.

### Bioinerm. Elements...Enhanced.

# THE B MOLECULAR OXYGEN





#### Why is there so much talk these days about Oxygen?

- Increased health and production
- Reduced disease rates
- Increased nutrient uptake
- Reduced nutrient and supplement costs

Every grower knows that water is the lifeblood of plant production. It carries nutrients and hydrates the plant, but in order for those nutrients to be efficiently absorbed by the plant, the latest research is confirming that significant amounts of *available* dissolved oxygen must be present.

#### Doesn't water already contain Oxygen?

The average city water and well water contain Dissolved Oxygen (DO), but at a very low level of 4-8 ppm. The use of the TOOB allows the grower to control the amount of DO and find the optimal level for the application. The DO range that research indicates is optimal for most applications is 18-25 ppm.

#### Why the TOOB?

Dissolving oxygen into water is normally considered to be an energy-intensive process. Until now, inefficient air blowers or bubble diffusers have been used, and the results are usually only minor increases in the oxygen level. There is no known method as efficient and economical as the TOOB's Molecular Oxygen Infusion method. Our system dissolves oxygen in water without making bubbles. The efficiency of this manner of mass transfer allows the production of stable liquid streams containing enormous amounts of dissolved oxygen that are normally only seen in labratory conditions.



The TOOB DO system outperforms other products that use air (21% oxygen), because the TOOB uses pure oxygen. Furthermore, air stones and nano-bubble systems create pockets of gas that rise to the surface and effervesce into the atmosphere very quickly. The TOOB injects individual molecules of O2 in between the water's H2O molecules, where they remain in stable suspension throughout the irrigation process.

For example, 40-45 ppm is quite simply achieved in irrigation storage tanks. Under ambient conditions, 8 ppm is typically the maximum, but with the TOOB, you can achieve far higher levels that will stay in solution long enough to unlock more potential in your system.

*"I've been in the cannabis industry for over a decade and the TOOB is the first irrigation product that lives up to its claims. In the first six months, I've seen a 15% reduction in nutrient costs, and over 11% increase in yields during the same time frame. The product is easy to use and install, and the team at BioTherm is always available to answer any questions."* 

-Jesse Patrick, OGC Non-Profit Collective

#### How it works:

Inside the TOOB is a proprietary "fiber module cluster," created from a special mass transfer fiber. One cubic foot of it has 7,500 square feet of surface area. This unique material has the ability to create a large interface between the water and the oxygen, resulting in extremely efficient infusion.

As the water passes through the TOOB, it passes over the hollow oxygen-filled fibers, where it undergoes the oxygen infusion process. The oxygen pressure is managed by the grower; supersaturating the water at the desired level for any growing scenario. The water exiting the TOOB is ready to use for irrigation.

#### Where it works:

- Hydroponically and in deep water culture (DWC)
- Soilless media
- Native soil

#### **Installation options:**

We can manifold multiple TOOBs to handle the necessary flow per application. Your BioTherm representative will work with you to determine the best method for your irrigation system.

#### Why choose the TOOB as your enhanced irrigation solution?

- Simple and efficient
- Easy to install
- Connects to locally sourced oxygen tank or an optional oxygen concentrator
- Economical with immediate ROI
- Long product life No parts requirement
- Scalable for your irrigation needs; starting at 14 GPM



How Mass Transfer Fiber Works



### **APPLICATION TECHNIQUES**



The TOOB is in stock and ready to ship! For more information or to order, call 1-800-GET-HEAT

