



## Bio-Dome Specification Sheet

### Introduction:

Wastewater Compliance System's patented *bio-domes* are intended for use as a means of increasing the naturally occurring biological activity in a water body. *Bio-domes* enhance the naturally occurring biology by providing 2800 square feet of surface area per unit, a gas delivery mechanism capable of providing air or more specific gasses as necessary, an environment protected from UV light, significant mixing action to ensure nutrient availability to the biology as it grows.

When used in a wastewater lagoon, the enhanced biology is capable of accelerating the nitrification of ammonium and the subsequent denitrification of nitrates and nitrites. Additionally, the gas delivery / aeration design helps reduce BOD levels, and as organic material is consumed by the bacteria overall TSS levels are reduced. The airlift action created within the *bio-domes* is the mechanism behind the mixing action and helps delay the buildup of sludge on the bottom of the lagoon.

### The Product:

Current *bio-dome* variations consist of 4-dome (*bio-dome* 2800) and 7-dome units (*bio-dome* 400) (Figure 1 & 2) for use in secondary and primary ponds, respectively. Both models consist of concentrically stacked domes secured to a custom concrete base with gas delivery under each shell (Figure 3).

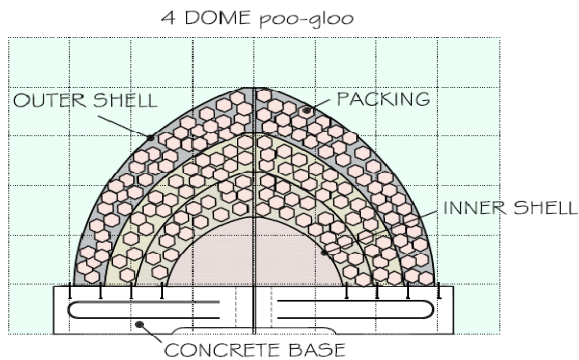


Figure 1 - 4 Dome *bio-dome*

Dimensions: 6 ft OD x 5 ft H  
Total Surface Area: 2800 ft<sup>2</sup>  
Weight: 820 lbs

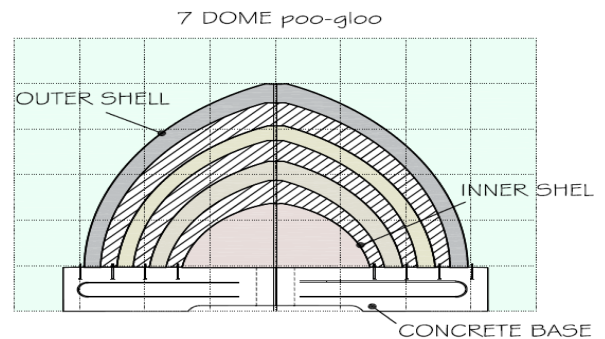


Figure 2 - 7 Dome *bio-dome*

Dimensions: 6 ft OD x 5 ft H  
Total Surface Area: 400 ft<sup>2</sup>  
Weight: 800 lbs

## Materials

*Bio-domes* are designed and constructed for year round submersion. Each *bio-dome* is constructed of recycled ABS plastic, concrete, stainless steel, pvc pipe and rubber aeration hose

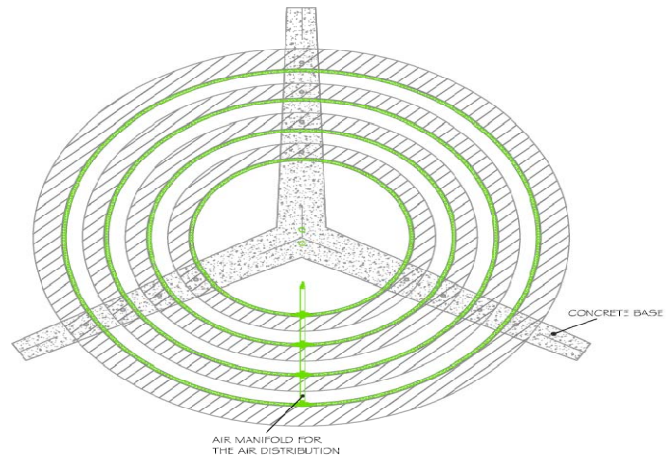


Figure 3 - Birds eye view of 4 dome *bio-dome*

## Standard Operating Conditions

Lagoon Depth:	> 6 ft
Water Temperature:	> 0 °C, < 50 °C
BOD Concentration:	< 2000 mg / L
Ammonia Concentration:	< 300 mg / L

## Operation Requirements

Airflow:	1 CFM @ 5 psig / <i>bio-dome</i>
Power:	~ 75 W / <i>bio-dome</i>
Off-Grid Compatible:	Yes (solar or wind)



## About Us

Wastewater Compliance Systems is based in Salt Lake City, Utah. Our patented technologies were developed by leading experts at the University of Utah. WCS is rapidly expanding its presence in the United States and abroad. Our team of engineers, technicians and representatives assist communities and engineers in the development and customization of designs capable of meeting the most demanding wastewater lagoon conditions and stringent regulatory requirements.

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