



OCEAN & LAKE PURE WATER SYSTEMS

HOW WE WILL CHANGE THE WORLDS WATER SOURCES!

Introduction - Clean, potable water is one of the most in-demand resources as populations continue to grow, and supplies fall. Casey Glynn – Founder and CEO of Phoenix Revolution– created a simple, cost-effective technology to produce drinkable water by desalinating ocean water and decontaminating polluted water. This product, the Ocean & Lake Pure Water System (“OLPWS”), produces fresh drinking water at more than 80% less cost than current methods. Existing systems are expensive for two key reasons. First, they are designed for large flow rates that require large, complicated and expensive machinery. Second, existing systems require water to pass through an expensive pre-treatment facility that uses cartridge-based filtration and hazardous chemical additives to clean the water before filtration.



Dynamics – Why is the OLPWS possible? Reverse osmosis technology already exists. What Phoenix Revolution has done is to take existing technology and create a better mousetrap. Below are five major ways that the OPWS is different than any other R.O. technology, followed by a detailed description of those differences. For further research on the OPWS, please scroll to the bottom of the document or press CTRL and [Click Here](#).

1. **Size, Modularity & Scalability** – The unit itself is only five-feet tall, but can be scaled-up to provide enough water for a town or country, and can be interconnected together to produce a clients desired Daily Gallon Flow Rate (DGFR).
2. **Unit Cost** – Individual units can produce anywhere from 300 GPD to over 100,000 GPD, and can be manufactured, distributed, and installed for less than 6% of existing methods.
3. **Lower Energy Requirement** – Using hydrostatic pressure reduces the overall energy requirements of the OLPWS.
4. **Salt Water and Fresh Water** – The OLPWS can not only desalinate salt water, but can also purify fresh lakes and ponds.
5. **Reduce Equipment & Energy Cost of Pre-Treatment** - Using hydrostatic pressure allows the pump to use reduced energy. Using its own weight to push the water through the OLPWS reduces the energy required to run the system by 10 percent.

For more information on how to change the World, please contact;

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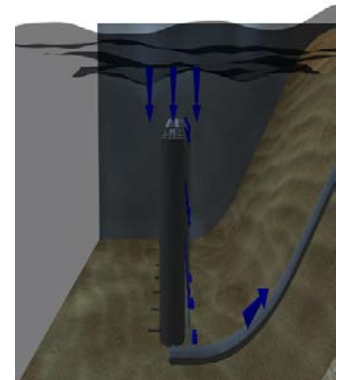
Specifics:

1. **Size, Modularity and Scalability** – The OLPWS unit is smaller than the average person, but each system can interlock with another OPWS system creating a system that can be tailor-made for each client or municipality. While our current model does 10,000 gallons per day, each system can increase its volume, (shown to the right). Furthermore, adding additional membranes can correspondingly increase the flow rate if given sufficient power. Overall, using the honeycomb lattice structure, the unit can provide millions of gallons per day, if desired.



2. **Unit Cost** – As stated here, due to the limited amount of energy needed, the ability to scale the OLPWS to provide the exact amount of water needed for any situation, the lack of chemicals needed in pre-treatment due to the use of UV light, and the lack of any surface-based waste water, the OLPWS costs a fraction of what a major desalinization plant would, while providing the same service and daily flow rates. In addition, the modularity of the system allows for more cost effective parts, scalability and makes costly pre-treatment and post-treatment systems unnecessary. The resulting outcome is that the OLPWS reduces the significant costs associated with desalinating, purifying and pumping to the surface fresh water from major sources such as oceans, seas, rivers, lakes and aquifers.

3. **Lower Energy Requirements** - With the ability of the OLPWS being water versus land-based, the system is gravity fed, reducing energy requirements. This makes sure the units are out-of-sight, and additionally since the units are assisted by the hydrostatic pressure of the ocean, the need to pump two gallons of water to the surface for every one gallon of fresh water produced, significantly reduces the overall power and operational costs associated with traditional desalinization methods and technologies.



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4. **Salt Water and Fresh Water** – RO systems are designed to desalinate salt water, but the OLPWS can also clean fresh water ponds and lakes without requiring dredging, or other traditional costly methods of freshwater decontamination. According to the independent laboratory verification testing on the OLPWS technology Phoenix Revolution commissioned by M.I.T., the University of New Hampshire and Suffolk University, the water produced from the OLPWS is “purified ideal water quality that is also free of dangerous bacteria and other micro-organisms”. This pure water can then be used to gather micro-organisms from the sediment of the lake or pond, before purifying the water again until all toxins are removed from the water and sediment.



5. **Reduced Equipment & Energy Cost of Pre-Treatment** - The modularity of the system allows for more cost effective parts, scalability and makes costly pre-treatment and post-treatment systems unnecessary and obsolete. The pre-treatment process utilized with the OLPWS does not use any chemicals. Most major R.O. desalinization plants use chlorine, which has to be accounted for during post-treatment. The OLPWS only uses UV light, making chemicals unnecessary.

For Further Information – Please check the following links:

1. [Phoenix Lab Report](#) – This link is where all three complete lab reports from UNH, MIT and Suffolk University are located.
2. [OPWS Video](#) – This link is a video addressing the OPWS.
3. [S-Series](#) – This link contains an animated video demonstrating the OPWS in salt water.
4. [F-Series](#) – This link contains another animated video demonstrating the OPWS in fresh water.

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