



RODI systems

Project Photos

Project Information

Client: SeaWorld of Florida

Location: Orlando, Florida, USA

Application: Reverse osmosis seawater desalination

Description: The project entailed the design and construction of a mobile reverse osmosis desalination plant capable of producing 30,000 gallons per day of permeate. This system is used to maintain the salinity of aquatic mammal habitats.



The system is mounted inside a 28 foot cargo trailer. It is totally self-contained and equipped with air conditioning to prolong the component life in a hot, humid environment. The system operates from a single 460 volt AC power source.

The system consists of a single 8" diameter pressure vessel equipped with six 8" x 40" thin film composite membrane elements. The vessel is supplied by a single positive displacement pump. The system is equipped with a state-of-the-art monitoring and control system and a full complement of electronic sensors.





This is the rear of the trailer with the cargo doors open. Note the raised floor which allows piping and conduit to be hidden and protected. This also makes for a very clean installation inside the trailer. The RO pressure vessel and high pressure pump can be seen on the left. The chemical injection systems for pH control and scale inhibitor are on the right.

This view from the inside front of the trailer shows the step-down transformers and master control unit mounted on the left. The FRP cartridge filter and RO pressure vessel are shown on the right. RODI makes use of non-metallic components when possible to prevent corrosion.



This application utilized a Wanner Hydracell positive displacement pump. The Hydracell pump has proven to be durable and is easy to rebuild when necessary. The Hydracell does need to be equipped with a pulsation dampener which can be seen on the top of the pump discharge piping.