

# CASE STUDY

## RO-500 Series

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**Reverse Osmosis Brackish Water  
Treatment for Cosmetics**



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**Made in USA**

 **PURE AQUA, INC.**<sup>®</sup>



# Reverse Osmosis Brackish Water Treatment for Cosmetics

**Country:** USA | **Capacity:** 115 GPM

## Challenge

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The medical industry consists of many different fields within its sector. One of which includes medicine and the formation of products alike. As a cleanser, purifier, and standard ingredient, water plays a crucial role in the fabrication of products in the medical industry. With applications ranging from sterilization to a key component of a medicinal product, the quality of water must be pure to prevent additional and unwarranted reactions from occurring. Municipal water contains traces of popular contaminants which can hinder the expected product quality. For this reason, a water treatment system is necessary to reduce the TDS levels of 700 PPM TDS from the municipal water source.

## Solution

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This reverse osmosis brackish water treatment was recommended to purify municipal water for a cosmetic company. The system recommended includes pre-treatment prior to the RO unit to facilitate seamless operations. The pre-treatment begins with a carbon filter to remove chlorine and organics in the water. Next, an antiscalant dosing injection preps the water to reduce any scaling potential. Then, the water continues on to a cartridge filtration unit to remove any suspended solids present in the RO feed. Lastly, from the cartridge filter, the feed is pressurized into the RO system to produce 124 GPM and filtering 700 PPM TDS down to less than 20 PPM TDS.

## Applied System

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The model **#TW-225K-5680** from our **RO-500 Series** was used in this plant.

## Features

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- Powder coated carbon steel frame
- (5) FRP pressure vessels codeline rated at 450 PSI with sanitary connections
- (30) 8" TFC spiral wound sea water membranes (Filmtec or Hydranautics)
- Pressure transmitter & gauges, (1) Rosemount conductivity meter on product line, ORP on feed line and pH on product line
- Low- & high-pressure switches, divert option.
- (2) Flow meters for reject and product line ProMass 83E
- High pressure pump CRN45-7 with 60 HP motor w/ VFD
- 5-micron pre-filter with SS housing (SSC-48-316)
- Flex I/O with 1794 AENT communication module
- All piping in 316 SS SCH 40 with sanitary tubing for product, reject in PVC

## RO-500 Series Product Video

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To learn more about our RO-500 Series product, watch this video!



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