

# CASE STUDY

## RO-500 Series

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### Brackish Water Reverse Osmosis Plant for Beverage Industry



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 **PURE AQUA, INC.**<sup>®</sup>



# Brackish Water Reverse Osmosis Plant for Beverages

**Country:** Nicaragua | **Capacity:** 260,000 GPD

## Challenge

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The food and beverage industry rely greatly on water and its quality. Multiple aspects of this industry require pure water; whether it be for cleansing or as an actual ingredient, any reminiscence of contaminants have a great negative effect on the overall quality of the product. Traces of contaminants like conductivity can result in taste irregularities and varying consistencies. Therefore, utilizing standard ultra-pure water across the board is ideal for the food and especially beverage industry. The water used in this application is to be consumed by humans and therefore would have to meet the requirements for ingestion as well. A specific water filtration system would be required to treat these characteristics like a reverse osmosis system to remove 99% of contaminants in the water.

## Solution

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This brackish water reverse osmosis plant was recommended to this beverage company to reduce conductivity from well water. The process begins with feeding the well water into a lime softening system to reduce the hardness of the water. Proceeding is a sand filtration system which will reduce the level of suspended solids. The water is then passed through a carbon filter which removes the taste, odor and chlorine present. Next, a 5-micron cartridge filter is used to remove suspended solids prior to entering the RO system. Finally, the reverse osmosis system removes the remaining contaminants to supply purified water for beverage production.

## Applied System

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This plant included a RO system model #**TW-270K-8580** from our **RO-500 Series**.

## Project Video

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## Features

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- (8) FRP pressure vessels Protec rated at 300 PSI
- (40) 8" TFC spiral wound membranes (Hydranautics ESPA2-LD)
- GF conductivity sensor on product line
- Low- & high-pressure switches
- (2) Paddlewheel Flow meters for reject and product line
- High pressure pump Grundfos CRN45
- 5-micron pre-filter with SS housing (SSC-66-316)
- PLC control panel (Siemens S7-1200).
- Cleaning skid for 8" membranes model CS8-2

## 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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