

CASE STUDY

RO-500 Series

**Containerized Industrial
Reverse Osmosis Plant for
Cement Manufacturing Industry**



Web: www.pureaqua.com

Email: sales@pureaqua.com

Phone: +1 (714) 432-9996

Toll Free: +1 (844) 309-7501

 **Made in USA**

The logo for Pure Aqua, Inc. is displayed in blue, featuring a square icon with a grid pattern to the left of the company name 'PURE AQUA, INC.' in a bold, sans-serif font.



Containerized Industrial Reverse Osmosis Plant for Cement Manufacturing

Country: Iraq | **Capacity:** 380,000 GPD

Challenge

Due to the nature of cement manufacturing, the binding process of hydration induced by water is essential to the production of cement. With water playing a key role in determining the quality of cement, it is important to ensure that all potential influencing outside factors have been considered and eliminated. Since the cement-to-water ratio is central to producing strong cement quality, the water cannot contain elevated levels of contaminants and must be as purified as possible. This would aid to ensure the reaction of other elements does not occur and the cement production process occurs seamlessly.

Solution

An industrial reverse osmosis plant was recommended for treatment of well water to supply purified water to a cement manufacturer. The complete purification process consists of six steps. The first is the pre-chlorination unit designed to decrease bio-fouling potential of the following systems. Secondly, a coagulant is provided to reduce the organic and colloidal fouling components in the water. Then, a feed pump pressurizes the water into a multi-media filter which removes the turbidity along with suspended solids of the water. Next, a dechlorination system is required in addition to antiscalant dosing to prepare the water and prevent it from scaling the RO membranes. Finally, the water passes through the RO system to produce 380,000 GPD of ultimately purified water. This industrial RO plant was specially containerized to provide a fully mobilized system.

Applied System

The **TW-380K-8680** model was applied as one of the Pure Aqua, Inc. **RO-500 Series** along with a multi-media filter, model # **MLF84-A** from the **MF-1000 Series**.

Project Video



Features

- Compact design to fit all equipment in 40' HC container
- MCP-S7-1200, Main control panel, Siemens PLC (S7-1200) + HMI (10" color screen)
- GF Signet instruments including paddle wheel flow meters, conductivity sensor, & ORP sensor

RO-500 Series Product Video

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



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