

## Coca Cola Bottling Company, Egypt

### Industrial Brackish Water Reverse Osmosis



In December 2008, Pure Aqua successfully supplied a skid-mounted Industrial Brackish Water Reverse Osmosis (BWRO) system to produce 50m<sup>3</sup>/hr product at 77°F using (42) 8"x40" FILMTEC LE-440i membrane elements, (6) FRP pressure vessels 7 elements per each vessel, SS multistage pump, PLC based controls and a digital conductivity and ORP read out, 380V/3ph/50Hz.

### SYSTEMS & PROCESS

Feed water to the system is from bore-well with raw water TDS of about 2451 PPM. The system design was based on high rejection TFC spiral wound membranes. The Brackish Water Reverse Osmosis system was selected from our RO-500 Series, model number BW-320K-6780-3. The Brackish Water Reverse Osmosis (BWRO) unit consists of a 5-micron cartridge filters to reduce feed water Silt Density Index (SDI) and to limit the SS to 5-micron size and advanced PLC control panel with touch panel screen. Pre-treatment and post-treatment includes the following:

- Antiscalant dosing to minimize the precipitation of sparingly soluble sulfate
- Multimedia filters to remove suspended solids and reduce turbidity
- Carbon filters
- Cartridge filter with 0.2 micron cartridges
- Filter feed and backwash pumps
- Post UV system

### PLANT DESIGN SUMMARY

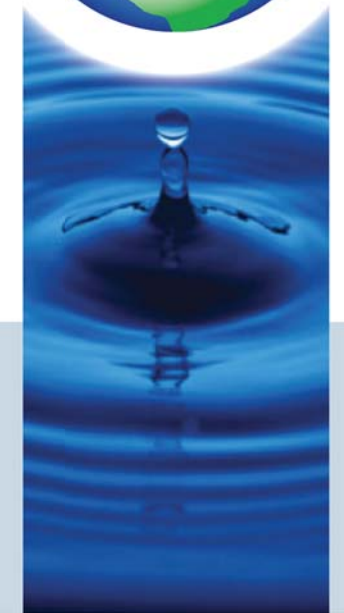
- Application: Bottling
- Total Plant Design Capacity: 1200 m<sup>3</sup>/day
- Product TDS: General Use = less than 240PPM
- Chemical Treatments: Antiscalant

### OPERATING CONDITIONS

- Feed TDS: 2451 PPM
- Maximum Pressure: 300psi
- System Recovery: 65%
- Feed SDI: Less than 3

### PERFORMANCE

From a feed TDS of about 2451 PPM at a temperature range of 19°C and 28°C, the BWRO skid produces 50 m<sup>3</sup>/hour of drinking water with TDS less than 240 PPM matching WHO standard for drinking water.



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