

2008 Case Study

Commercial Brackish Water RO Units

Major Water Treatment Company, Dubai UAE



INTRODUCTION

In September 2008, Pure Aqua successfully manufactured and supplied to a major water treatment company in Dubai UAE, more than 15 units of Commercial Brackish Water Reverse Osmosis (BWRO) Units to produce different capacities between 1,500 GPD to 6, 000 GPD at a maximum 2000 ppm feed water TDS.

Reverse osmosis occurs when the water is moved across the membrane against the concentration gradient, from lower concentration to higher concentration. To illustrate, imagine a semi-permeable membrane with fresh water on one side and a concentrated aqueous solution on the other side. If normal osmosis takes place, the fresh water will cross the membrane to dilute the concentrated solution. In reverse osmosis, pressure is exerted on the side with the concentrated solution to force the water molecules across the membrane to the fresh water side.

Reverse osmosis is often used in commercial and residential water filtration. It is also one of the methods used to desalinate seawater. Sometimes reverse osmosis is used to purify liquids in which water is an undesirable impurity (e.g., reclaimed waste water, ethanol).

SYSTEMS & PROCESS

The Commercial Brackish Water Reverse Osmosis Units were selected from our RO-200 Series, model number RO-1500 and RO-6000

The BWRO Unit consists of TFC spiral wound membranes to have a recovery rate of 60% with an advanced microprocessor control panel.

PERFORMANCE

From a feed TDS of 2,000 mg/L at temperature range of 25 °C, the system produces from 1.2 to 7gpm of high quality water at less than 100 ppm.