

Tap Water Reverse Osmosis Kit

A Major Company AZ, USA



Introduction

In December 2010, Pure Aqua, Inc. successfully manufactured tap water reverse osmosis kit to a major company in Arizona, USA. The TW-1.5K-140 system were designed to each produce 1,200 GPD at a maximum rate of 500 PPM TDS and came complete with a microprocessor control panel. The system were chosen from our RO-200 series. Since their initial startup, the machines have been functioning properly with minimal trouble-shooting.

Reverse osmosis has some assistance in the water purification process in a tap water reverse osmosis kit. Water softeners are used to help purify water before it goes into reverse osmosis. The hard water is contaminated with calcium and magnesium. This effects the soaps and detergents used around the house because it counteracts their objective. Water softeners remove the calcium and magnesium with a resin that is covered in sodium ions. When concentrated water is going through the softener, the calcium and magnesium are attracted to the resin. The resin then releases the sodium, allowing the sodium ions to continue with the water while the calcium and magnesium are left on the resin till regeneration. Regeneration takes place when the resin is full to capacity with calcium and magnesium. They are then washed with a brine solution that contains salt. The salt will then grabbed the attention of resin, which now releases the calcium and magnesium, leaving it to be distributed as waste. The softer water continues to reverse osmosis.

Tap water reverse osmosis kit use the idea of osmosis in order to purify water. "Osmosis" is a natural process in which water with a low salinity content moves towards water with a higher salinity content. Pressure forces water toward a higher salt concentration which means pressure is pushing water toward a something that makes it unusable. Reverse osmosis opposes the natural tendency by applying more pressure than used for osmosis. By applying more pressure, the water is forced back the other direction toward low salinity content. Before becoming pure the water goes through a semi porous membrane. This membrane is made up of filters that have pores large enough for water to pass through but are small enough to prevent impurities from continuing on. Once the water has passed through the semi porous membrane it is on the low concentration side and is in a usable state.

Tap water reverse osmosis kit was created and manufactured to purifying water and make it potable. Tap water is rarely consumed by just drinking it however, it is used for cooking, gardening, cleaning and bathing. Pure water is of the greatest value when doing daily activities and sometimes gets taken for granted.

System Overview

Location:	AZ, USA
End-User:	A major company
Objective:	To lower TDS to less than 100 PPM
Water Source:	Well water
Feed TDS:	700 ppm
Capacity	1,200 GPD
Instruments:	Flow meters, conductivity meter, and a low pressure switch
Control System:	Microprocessor control panel

