

**PROCESS
TECHNOLOGY**

...Tytan in Reverse Osmosis

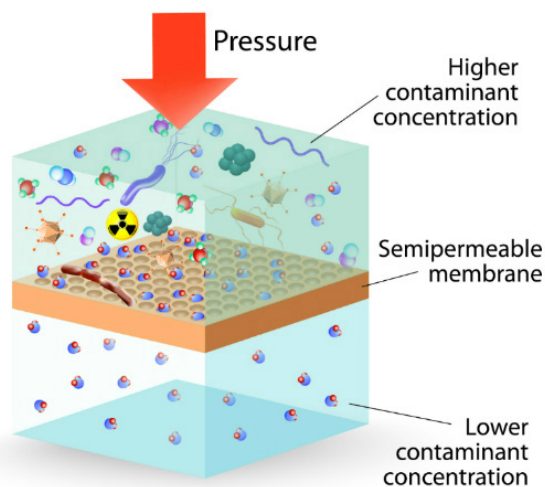


Tytan instantaneous water heaters are often used in extreme environments (like the Arctic Ocean) where corrosive chemistries are present, due to their all-titanium wetted surfaces. A water systems integrator is using multiple Process Technology Tytan water heaters to desalinate Arctic sea water in an offshore drilling application. Salt water (65,000 $\mu\text{S}/\text{cm}$) is pumped from wells into a Tytan, which heats the water to about 40C (40oF) before it enters their Reverse Osmosis (RO) system that removes the salt. Since the salt water is typically under 0oC, they have to heat it in order to prevent freezing once the salt is removed. Once treated, the water is used for mud make-up in the drilling operation and for purified drinking water

As an added bonus, this also improves the throughput of the RO membranes, as membranes typically operate much more efficiently at warmer temperatures (optimally, they are operated at near or slightly above room temperature). This reduces the size of the RO system needed, reducing initial costs and reducing the frequency of membrane cleaning/replacement.

The water systems integrator has units in continuous operation for the past ten years without issue and considers the Tytan reliable. As a result, they've continued using Tytans in subsequent installations.

REVERSE OSMOSIS



<http://www.processtechnology.com/inline-water-heaters.html>

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