How to Increase Capacity and Improve Reliability of Ship and Off-Shore SWRO Systems

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The most expensive real estate in the world is not in Dubai, London, Tokyo or Moscow; it is on ships and off-shore platforms, where every square foot can cost $300 - $500.

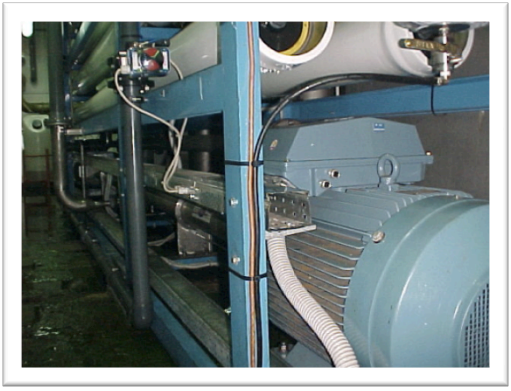
An increasing number platforms and marine vessels rely on seawater reverse osmosis (SWRO) systems to extract fresh water from seawater. SWRO system reliability is paramount to ensure adequate fresh water for personnel as well as process equipment. And the cost of on-board real estate demands the most space-efficient SWRO package possible.

The high-pressure pump (HPP) provides the driving force to produce fresh water ("permeate") from the SWRO membrane, and is key to achieving both system reliability and compact size. The FEDCO MSS series and SSD series HPPs cover flows from 10 m^3/hr (smaller fishing vessels) to flows in excess of 1400 m^3/hr (off-shore platforms for water-flooding applications.) The SSD-1000 can pump up to 1400 m^3/hr (6,100 gpm) of seawater at SWRO pressures, yet it has a footprint of less than 2.0 m^2 (22 square feet, not including the motor.) An MSS-15 handling 15 m^3/hr takes up about less than 1.0 m^2 and can easily be located under membrane housing. Both the MSS and SSD have negligible vibration and noise and have low weight, designed to reduce deck loads.

Not only are FEDCO products compact; they also are known worldwide for their efficiency and reliability. The MSS and SSDs are usually at the top end of efficiency across flow range. With the longest warranty offered in the RO business, these pumps have proven their reliability in thousands and land installations and in nearly one hundred marine-based applications. These units have zero maintenance requirements:

- No oil or grease lubrications
- No ambient temperature limits
- Handle rough conditions with ease
- Longest warranty in the RO market

Also, the right type of brine energy recovery equipment typically will make your marine SWRO system smaller, more reliable, and less expensive. The FEDCO Hydraulic Pressure Booster (HPB,) used in hundreds of military and marine SWRO systems, actually reduces the size and weight of the feed pump and motor. Like FEDCO pumps, the HPB requires absolutely no user maintenance and has the longest warranty in the business. With the smallest footprint of any ERD, it takes up little floor space and reduces energy consumption by up to 50%, reducing fuel costs.



FEDCO MSS Pump and HPB on Marine SWRO