

Reverse osmosis on board Case Marine



Background:

Case Marine Reverse Osmosis Units are installed on board the Grand Princess to produce fresh water from seawater. The nominal capacity of the RO unit is 500m³/24 hr with a BOLLFILTER automatic pre-filter to reduce the load on the 20 µm and 10 µm cartridge filtration units and to protect the membranes by retaining algae and other microorganisms.

Description of the solution

After using for the last decade BOLLFILTER automatic Type 6.18 with 50 µm filter candles, Case Marine decided to improve the quality of their existing prefiltration system. On board the Grand Princess they started a side by side test installation by upgrading one of the two RO systems with the new automatic filter aquaBoll® with a 30 µm fine sieve cylinder. Both filter types are very similar in size and pipe connection which drastically reduced the need of piping modification and eliminated any electrical or structural changes. Both RO systems were adjusted to operate at the exact same flow rate for multiple 10 day cruises from San Francisco to Southeast Alaska and Victoria BC Canada. During the test period various water sources and temperatures have been used as feed water for the RO systems and both filter types operated properly.

Added value for the customer:

During the test period between June and September 2019 the consumption of fine filter cartridges has been recorded. Analyzing the data showed that the aquaBoll® with a 30 µm grade of filtration and an improved back flush efficiency required only 25% of filter cartridges and reduced significantly the maintenance time.

Customer:

Case Marine

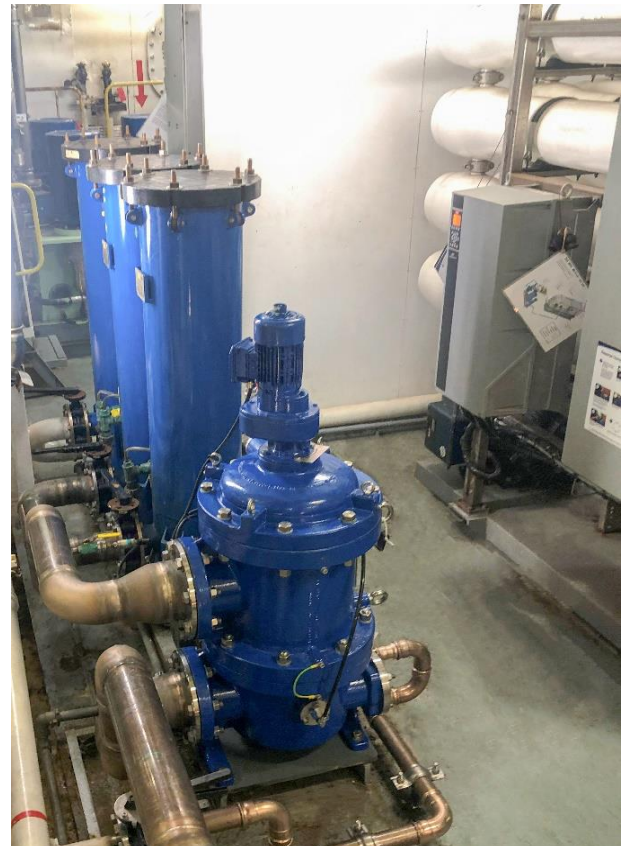
System:

Automatic water filter aquaBoll® 6"
Cast Iron Vessel with 3mm Rubber Lining, Super Duplex Internals and Sacrificial Anode

Flow Rate: 79 m³/h
Filtration Level: 30 µm Fine sieve cylinder
Operating Pressure: 4 bar
Design Pressure: 10 bar



Grand Princess



Installed aquaBoll®



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Automatic Filtration and protection of RO unit