

Dagua-BWT

A NEW TECHNOLOGY FOR THE TREATMENT OF BALLAST WATER

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Most ships should install an on-board ballast water treatment (BWT) system, producing water qualities that conform to the D-2 ballast water performance standards that set limits on the concentration of viable organisms allowed to be in the ballast water at discharge.

Dagua-BWT

Effective Purification and Disinfection of Ballast Water

1. Rotary screen filter (20 µm) with automatic suction backwash (ABW):

- Screen filter with ABW allows the separation of sediments, aquatic organisms and other suspended solids to 20µm.
- Stainless steel screens, set up in parallel for unlimited flow capacities.
- Backwash cycle, accomplished in seconds, supporting the maintenance of the low operating pressure of filter.

2. Ozonation

- Ozone disinfects and significantly reduces the concentration of pathogenic substances including viruses and bacteria, as well as phytoplanktons, zooplanktons and microalgae.
- Ozone production is automatically adjusted by on-line ozone analyzers, based on the concentration of contaminants in the feed water.

Dagua-BWT Technology



Dagua-BWT-UF

- Dagua-BWT-UF provides a higher degree of treatment in the event of a significant level of contamination in the ballast water, or if the discharge of dead microorganisms and aquatic organisms to the receiving waters is prohibited
- Dagua-BWT-UF technology benefits from the use of ultrafiltration (UF) membranes with pore size of 0.01 to 0.1 microns downstream of the ozonation process
- Colloidal and suspended particles (dead microorganisms, phytoplanktons, zooplanktons) will be retained by the UF membranes, producing a clean permeate which is ready for discharge into the most sensitive receiving waters
- The ultrafiltration membranes operate at low pressure (30-40 psi) and have low power consumption
- No chemical agents need to be carried aboard the ship

Specific Characteristics and Advantages of Dagua-BWT & Dagua-BWT-UF Technologies

- Chemical-free ballast water treatment – High efficiency treatment disinfection and removal of invasive aquatic species
- Ozone eliminates the use of expensive and toxic chemicals and the generation of toxic sludge by-products and handling
- Scalable plants: can be fabricated as modular units for the treatment of ballast water onboard the ships or at the ports
- The Dagua-BWT and Dagua-BWT-UF systems can treat ballast water at flow rates of 4 m³/hr up to 15,000 m³/hr
- Easy to operate (labor < 30 min/day), fully automated
- Self-adjust to maintain water quality, consistently meeting or exceeding the regulatory standards