

The **smartest BWMS** solution on the market

How it works

The heart of the Bawat ballast water management system is the pasteurizing unit. Simply put, when the ballast water has passed the pasteurizing unit, the microorganisms are eliminated and the ballast water is treated.

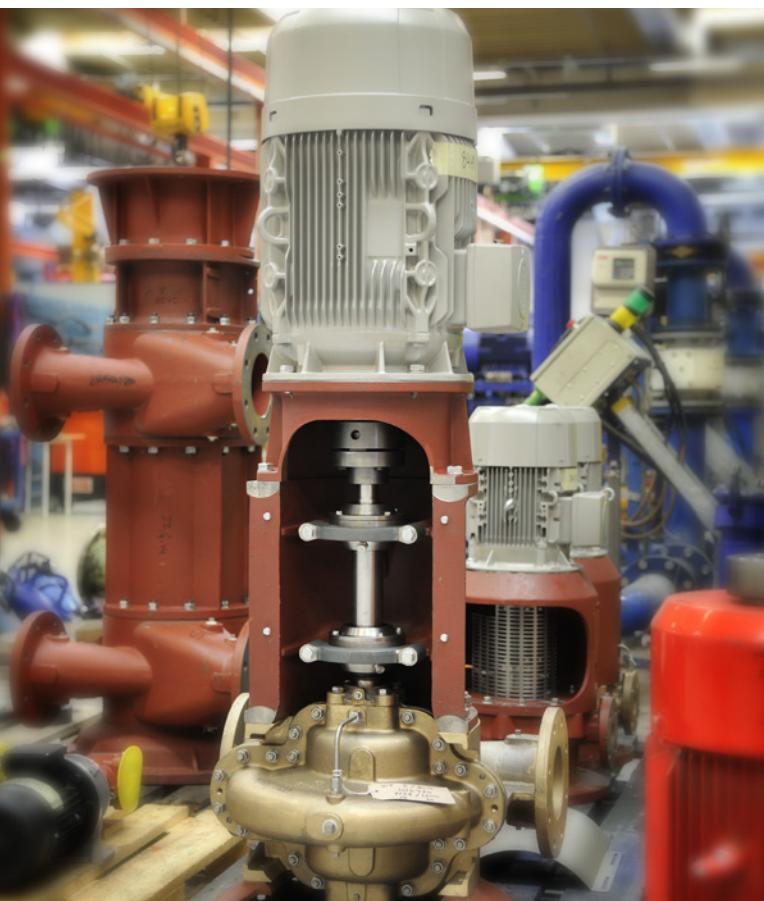
Ballast water treatment is initiated when the vessel has left port and is in voyage. Ballast water is pumped through the pasteurizing unit. Within

the pasteurizing unit, the ballast water is heated to the pasteurization temperature and kept at this temperature for the required time.

Ballast water heating takes place by use of plate heat exchangers using any available surplus heat sources – e.g. from the main engine jacket cooling water or exhaust heat economizer. Within the regeneration section of the pasteurizing unit the already treated

ballast water pre-heats the in-coming water. Resulting in low power requirements and high energy efficiency.

Bawat BWMS gives you four in-voyage treatment options in the same installation; ballasting in-line treatment, de-ballasting in-line treatment, tank-to-tank treatment and circulation treatment. No further treatment is necessary before de-ballasting.



WHAT MAKES THE BAWAT BWMS SO SPECIAL?

- No 50 µm filters, no clogging of filters and backflush power losses
- Tried-and-true standard marine components only
- No own production or limited access to system components
- Very limited on board spare part requirements
- No costly or time-consuming on board maintenance
- No specialists or specialised training are required
- No costly or time-consuming procedures are necessary



Ballast Water Management



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Regulatory Compliance and Certifications

Bawat is committed to meeting all IMO and US Coast Guard regulations for ballast water treatment. The Bawat BWMS is certified and Type Approved by ABS, Bureau Veritas and DNV-GL.

Strong ownership

Bawat was established in 2011 with the aim of developing and bringing to market technologies for treating ballast water in the maritime sector. Possessing in-depth knowledge and an extensive network, Bawat is a trusted and professional partner to an industry undergoing rapid growth today and into the future.

Key shareholders are MP Investment Management A/S, The Danish Maritime Fund, Return ApS, Homarus Holding A/S, and Omni Group 2000 ApS.

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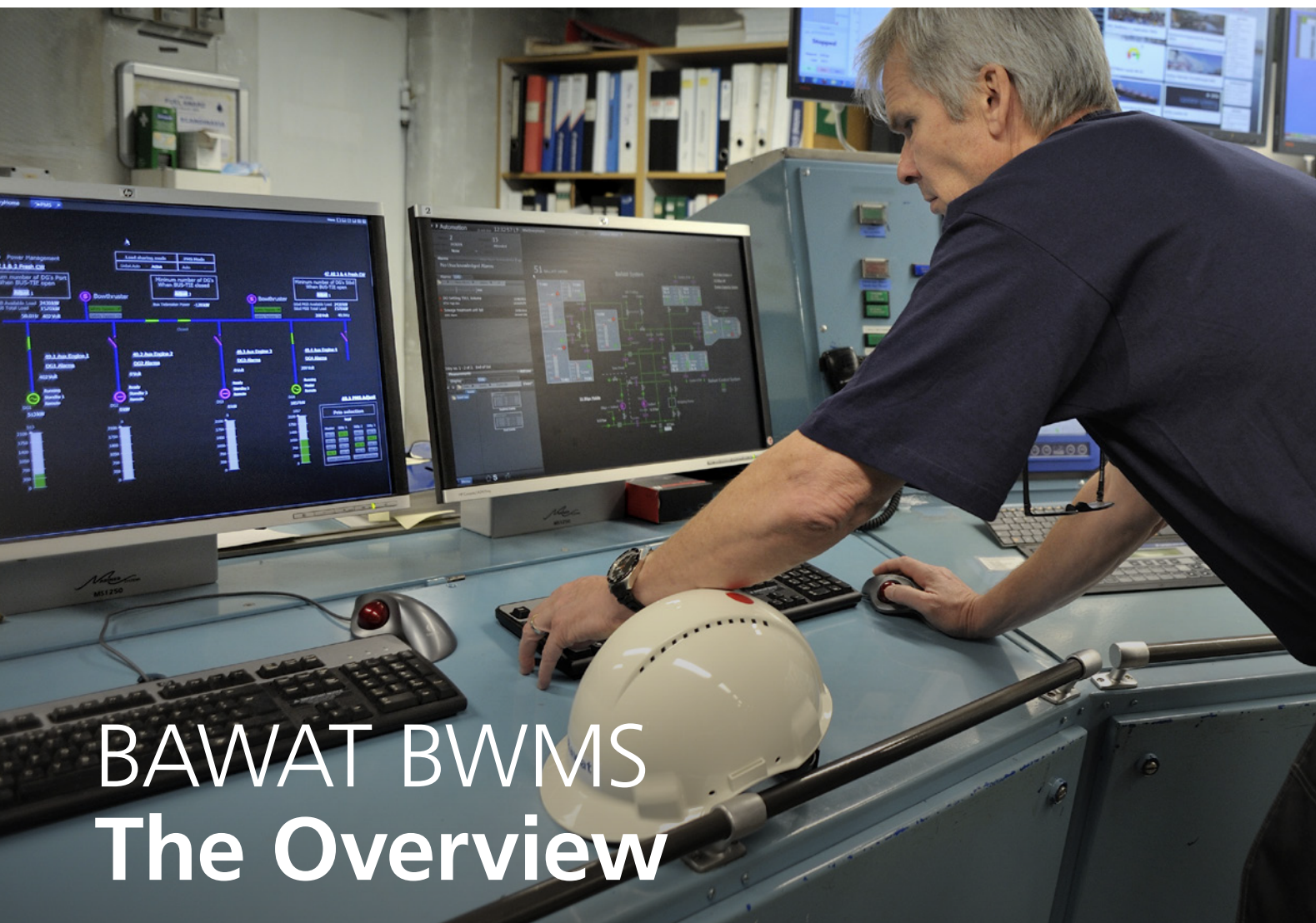


It's all-ways in all waters with Bawat BWMS

Bawat's revolutionary BWMS solution represents a breakthrough technological advance in ballast water treatment. The unique in-voyage system ensures zero impact on ship performance and zero disruption to cargo and ballast operations while the vessel is in port.

Bawat's technology is based on pasteurization, so no chemicals, filters or UV are required. Economically advantageous for ship-owners, Bawat BWMS exploits available onboard waste energy and offers a uniquely effective and less disruptive technology.

Bawat BWMS is designed to fit your ballasting needs with four in-voyage treatment options all in the same system; ballasting in-line treatment, de-ballasting in-line treatment, tank-to-tank treatment or circulation treatment. What is more, the ballast water only needs one pass through the system to be treated.



BAWAT BWMS The Overview

In-voyage solution

The Bawat BWMS solution delivers a radically innovative technology for treatment of ballast water. As one of the only in-voyage solutions on the market today, the patented Bawat technology conveniently treats ballast water while the ship is sailing, with no impact on cargo and ballast operations during a port stay.

Sustainable Technology

Bawat BWMS is also unique in utilizing onboard waste energy for sustainable, efficient and cost-effective water treatment. The waste energy of the machinery is the heat source for the system to operate. The technology is based on pasteurization and no chemical compounds, UV-radiation or filters are required.

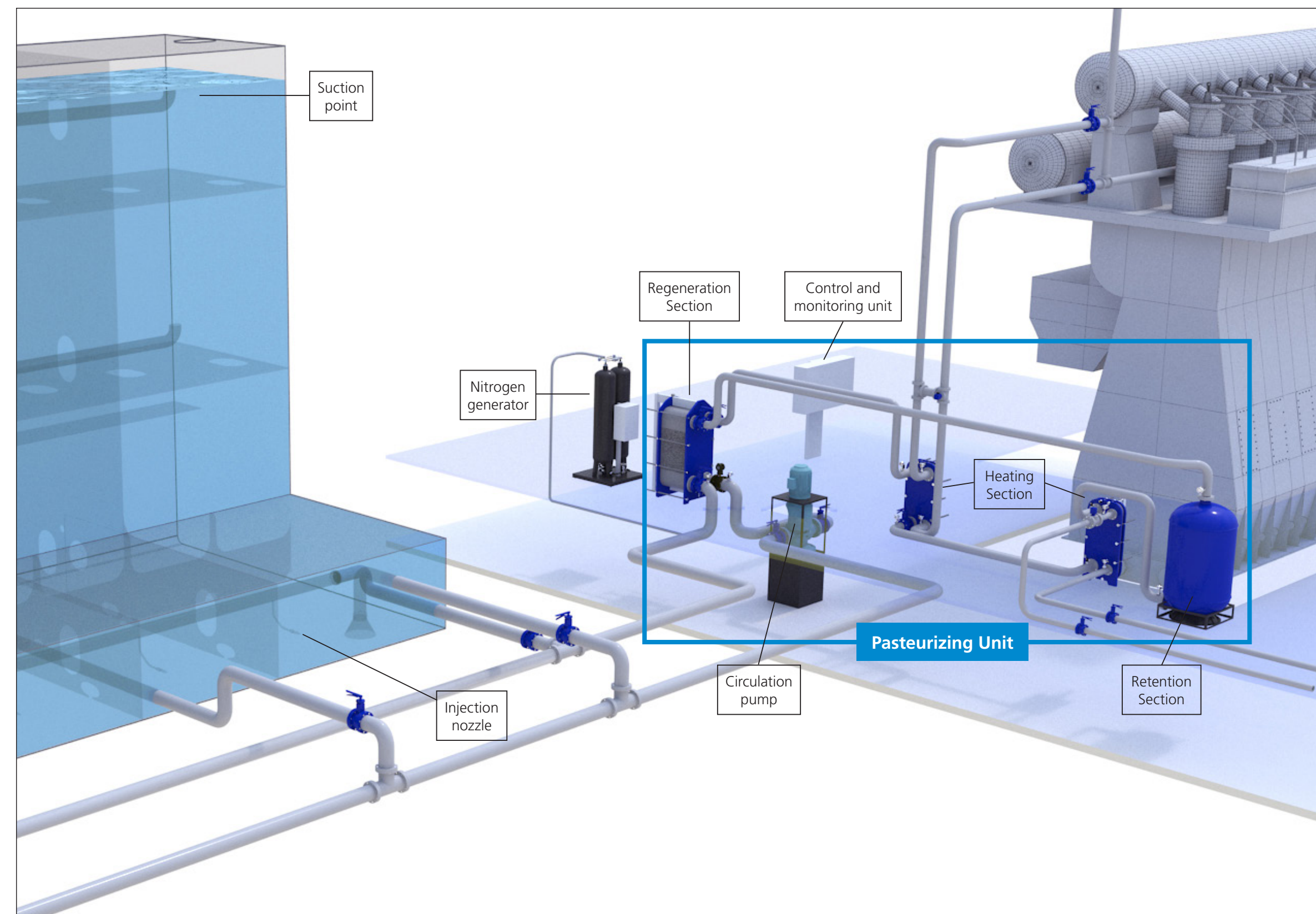
Size matters

Thanks to its flexibility and scalability, Bawat BWMS is suitable for vessels of all sizes, but it represents the ideal solution for container ships, car carriers, general cargo ships, multipurpose ships, gas carriers, dredgers and off-shore supply vessels. Based on owner preference, the Bawat BWMS solution can be designed as a central unit application, a port and starboard side application or as a containerized and mobile solution.

THE BENEFITS

- No disruption to cargo and ballast operations
- Exploits onboard waste energy
- Efficient in all turbidities, salinities and temperatures
- No upgrades of already existing installations are necessary
- Facilitating retrofits
- Low operating costs

The **Pasteurization** technology behind Bawat BWMS



THE PASTEURIZATION PROCESS

Ballast water treatment is initiated when the vessel has left port and is in voyage.

Ballast water is pumped through the Pasteurizing Unit. Within the Pasteurizing Unit, the ballast water is heated to the pasteurization temperature and kept at this temperature for the required time.

Ballast water heating takes place by use of plate heat exchangers using any available surplus heat sources – e.g. from the main engine jacket cooling water or exhaust heat economizer.

Within the Regeneration Section of the Pasteurizing Unit the already treated ballast water pre-heats the in-coming water. Resulting in low power requirements and high energy efficiency.

Bawat BWMS gives you four in-voyage treatment options in the same installation:

- Ballasting in-line treatment
- De-ballasting in-line treatment
- Tank-to-tank treatment
- Circulation treatment - nitrogen is injected under pressure into the water flow

No further treatment is necessary before de-ballasting.