



# Bawat

Ballast Water Management

CORPORATE  
BROCHURE



## BALLAST WATER MANAGEMENT SYSTEM

- INDEPENDENT OF WATER QUALITY
- NO FILTER
- LOW OPEX
- PASTEURIZATION AS TREATMENT METHOD
- ONE PASS - NO HOLDING TIME
- GREEN & SUSTAINABLE



**Bawat**  
Ballast Water Management

U.S. Coast Guard  
APPROVED



### **ABOUT BAWAT A/S:**

Bawat A/S offers a cost-effective, environmentally-friendly approach to ballast water management.

Founded in 2011 Bawat is rooted in the tradition of Danish maritime innovation.

Bawat's commitment is to make a difference concerning the ecological well-being of the world's oceans by introducing innovative sustainable technology for the maritime industry.

Bawat is listed on Nasdaq First North Premier Market in Stockholm since March 2022





# BAWAT BWMS

*To prevent the spread of harmful aquatic organisms from one region to another and damages to the marine environment, Bawats Ballast Water Management System treats the ballast water and thereby helps to protect the ecological balance of ports and oceans globally.*

## THE BAWAT BALLAST WATER MANAGEMENT SYSTEM (BWMS)

The Bawat BWMS is a no-filter, one-pass treatment system utilizing available onboard waste energy to treat ballast water. The One-Pass process ensures that the ballast water is treated after passing through the system once - no secondary treatment or neutralization is necessary.

When installing a Bawat BWMS you get a robust, easy-to-handle and sustainable BWMS solution. The system consists of well-known standard marine components, making it easy to operate and simple for the crew to maintain.

## INDEPENDENT OF WATER QUALITY

The unique Bawat BWMS can operate in all types of water without limitations. The system works equally good in brackish, fresh, cold and high turbid water - without reducing treatment flow.

## NO FILTER

The system has no filters to remove zoo plankton from the water. Thereby back flushing procedures and filter clogging are avoided.

## LOW OPEX

The system utilizes onboard waste energy to treat ballast water which makes it cost-free to run. Besides heat, the system requires no consumables.

## PASTEURIZATION AS TREATMENT METHOD

The process Bawat uses to treat the ballast water is pasteurization, which is a combination of heat and time ensuring efficient elimination of all living organisms. The process was invented by Louis Pasteur in the 1850's and is being widely used in the food & beverage industry.

## ONE PASS - NO HOLDING TIME

The heat treating process kills all aquatic invasive species and pathogens from ships' ballast water, consequently no holding time in the ballast tanks is needed.

## GREEN & SUSTAINABLE

By utilizing waste energy from the main engine the Bawat BWMS provides a green solution to treatment of ballast water.





## BAWAT SHIP BWMS

### THE UNIQUE AND EFFICIENT CHOICE

Bawat's ballast water management system represents a real innovative breakthrough in ballast water management. The solution utilizes available on-board waste energy often from the main engine to treat ballast water in-voyage. Alternatively the system can be connected to other heat sources, enabling the vessel to treat ballast water in port as well.

The Bawat BWMS is easy to install and simple to operate. It is built from off-the-shelf (OTS) components, with no chemicals, no filters and no UV.

The BWMS is an appendix to the ballast water system - not in-line with the ballast pumps, thereby giving the owner an option to have a BWMS that is sized to fit to the ballast treatment need and not according to the size of the ballast pumps.

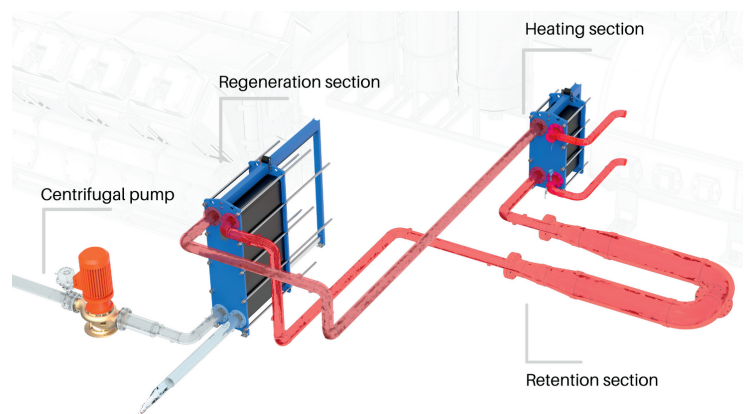
When utilizing waste heat to drive the BWMS, OPEX for the ship owners becomes negligible, as no other energy and consumables are required.

### TECHNOLOGY DESCRIPTION

1. The untreated ballast water is pumped from the sea chest to the regeneration section, where the pre-heating of the water takes place.

2. The water is then being pumped to the heating section, where it reaches the pasteurizing temperature and flows to the retention section.
3. After passing the retention section the water is pasteurized and fulfills the required outlet criteria - **no holding time or further treatment required.**
4. The treated water is cooled down in the regeneration section, where the heat is transferred to the incoming ballast water.

The process is monitored and controlled from the Control and Monitoring Unit (CMU).

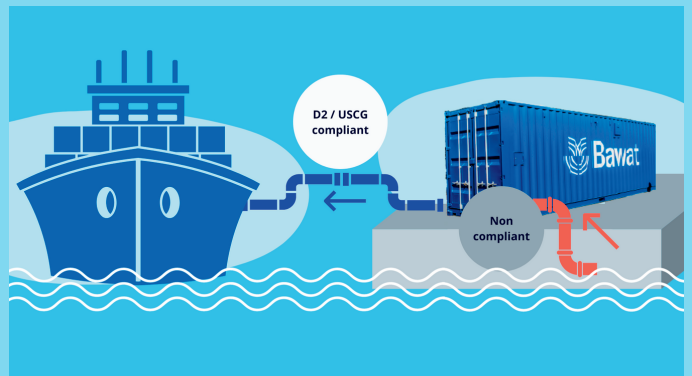
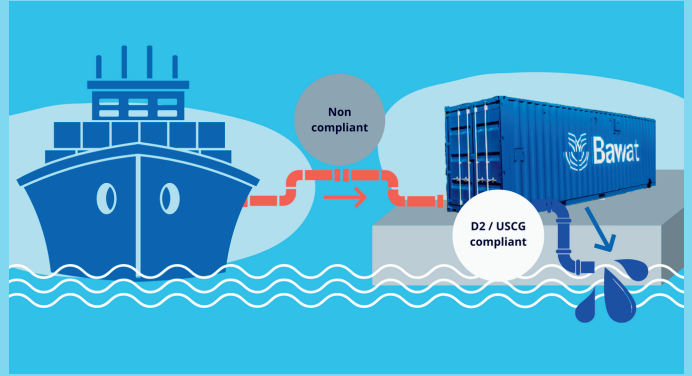




# ***BAWAT SHIP BWMS***







## THE BAWAT MOBILE BWMS

### PORT AND YARD SOLUTION

The Bawat Mobile BWMS allows treatment in ports, terminals and shipyards if the vessel's BWMS malfunctions or no onboard BWMS is installed.

The unit provides ports, terminals and yards with an ability to offer the vessels a unique contingency or scheduled service, so the vessels are not operationally delayed when the ballast water has to be treated.

### VESSEL AND OFFSHORE SOLUTION

The Bawat mobile BWMS enables vessels and offshore platforms to avoid expensive fixed installations. Bawat provides owners with a flexible solution of servicing several vessels with only **one** Bawat unit.

### HOW IT WORKS

The unit is easily connected to the ballast water piping.

The pasteurization process in the mobile solution is identical to the ship solution, however, in addition to the ship solution, a boiler is installed as a heat source.

All components of the BWMS are installed in a standard container.



3D illustration and photo of Bawat's mobile BWMS





***BAWAT  
MOBILE BWMS***







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**CONTACT US:**

We are based out of our head office in Copenhagen, Denmark and work closely with local agents and partners covering most of the world to service local needs and expectations.

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