

Maritime Potable Water

An integrated management solution for onboard potable water production, distribution and point of use that address key challenges and deliver benefits



Addressing the challenges of potable water

All ships need a good, constant supply of fresh water not only for drinking by crew and passengers, but also for cooking, cleaning, washing and diverse mechanical and technical purposes such as cooling systems and feedwater for boilers. On cruise ships, fresh water is also required for swimming pools and hot tubs.

While some ships bunker potable water directly into their potable water tanks from shore when in port, most produce all their drinking water directly from seawater using dedicated on-board cleaning processes. Naturally, these processes must comply with strict standards and regulations to ensure water quality for human consumption, requiring a comprehensive chemical treatment and testing regime that must be rigorously adhered to.

Proper treatment and management serve not only to enhance water sanitation but also to protect equipment assets and promote energy efficiency. In contrast, inadequate water treatment, especially over the long term or in the case of older systems, can trigger physical damage to pipes and machinery structures resulting in high repair and maintenance costs, operational inconvenience and, not least, expensive downtime and loss of business.

Common pain points in potable water treatment

Biofouling

Excessive and uncontrolled marine organism growth will cause fouling to filters and pipeline, potentially limiting potable water production



Scaling

Dissolved minerals, scale, and deposition in water production equipment such as Fresh Water Generator and Reverse Osmosis Plant, reduces performance efficiency and increases labour on maintenance



Corrosion

Improper corrosion management at potable water distribution system points will contaminate the water, impact asset integrity, incur pipeline replacement cost and additional labour for maintenance



Improper monitoring

Ship personnel may be unsure what parameters and guideline to follow; both biological and chemical parameters are important for ensuring water quality



Inadequate recording

The absence of an efficient data management system can lead to ineffective data capture and recording, impeding water quality assurance



Incorrect dosing

Inadequate chemical dosing can lead to risks such as chemical burns, negatively affect ecosystems and result in the waste of chemicals



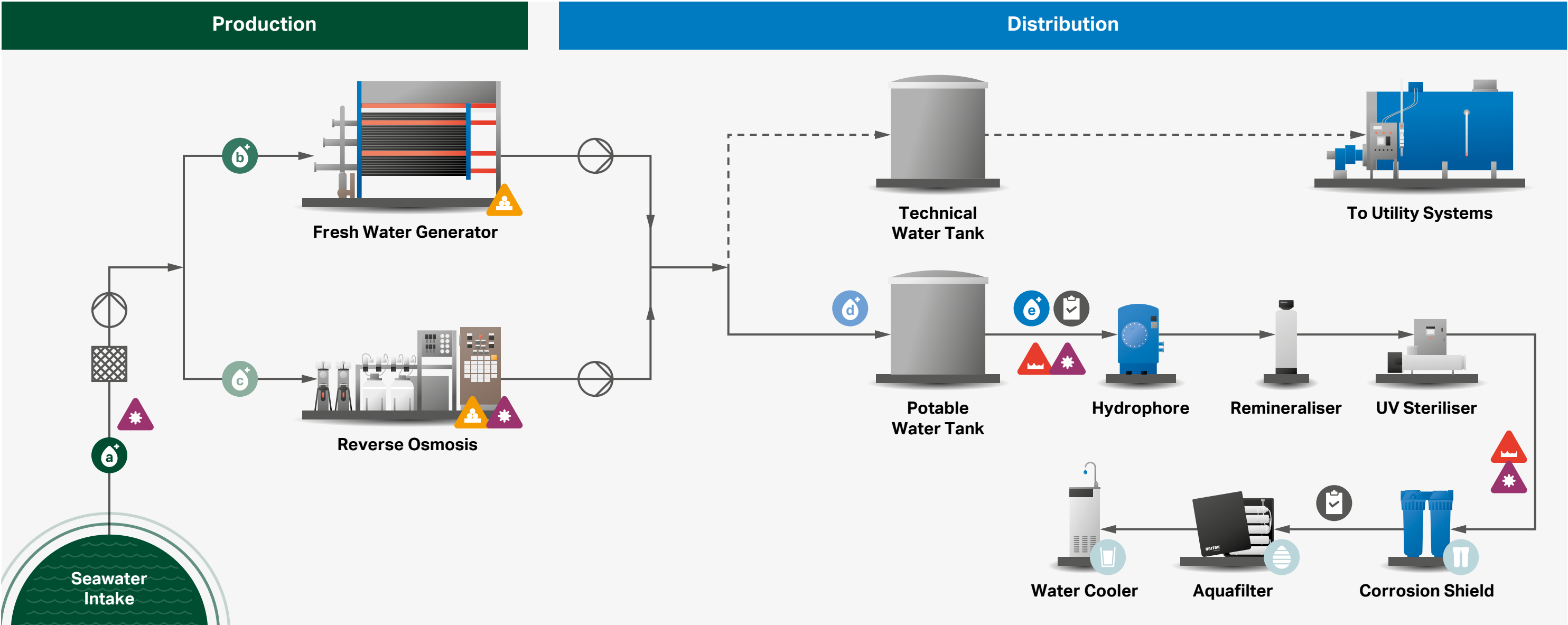
Comply with water quality standards and regulations

Implementing a comprehensive solution that incorporates certified treatments, filtration, testing and data management is a top priority for responsible operators to achieve standardised potable water quality management onboard.

Wilhelmsen Ships Service helps vessel operators achieve this through an integrated potable water solution that addresses key challenges of the entire onboard potable water journey. From the point of production to the point of use, the solution allows ships to realise the following benefits:



Integrated potable water management



Legend:

- Pump Filter Risk of Scaling Risk of Corrosion Risk of Biofouling

Solution Point			
Chemical	Bioguard Plus (778918) ¹	Vaptreat 25 Ltr (571364) ¹ Evaporator Defoamer 4x5 Ltr (638676) ²	RO Scale Control 25 Ltr (777716) RO Surfactant Cleaner 25 Ltr (777201) ² RO Mild Acid Cleaner 25 Ltr (777715) ² RO Bisulphite 25 Ltr Liquid 38-40% (777852) ²
Dosing Equipment	Seawater Dosing System with Timer Functionality (777320)	Potable Water Dosing System with Timer Functionality (777318)	

¹ Chemical requires dosing. Please refer to recommended dosing equipment.
² Chemical to be used as needed.

Potable Grade Sodium Hypochlorite (909001) ¹	Hydrochloric Acid 33-35% Potable Grade (773408) ¹
Potable Water Dosing System with Timer Functionality (777318)	Potable Water Dosing System with Timer Functionality (777318)

Solution Point	Product
Test Point	pH/ EC/ TDS/ Salinity Multi Pen Tester (568692) Turbidity Meter (Digital) (568695) MaxiDirect MD600 (777180) Potable Water Test Kit (778419)
Corrosion Shield	Corrosion Shield 20-1" (735101)
Aquafilter	Aquafilter System (779260)
Water Cooler	Drinking Water Cooler with Heater INOX 220V (700050)

Treatment chemicals and equipment

Bioguard Plus™

An effective anti-foulant and corrosion inhibitor for use in sea water systems, the product also acts as a corrosion inhibitor and can be used in sea water cooling systems, intakes, filter boxes, static ballast tanks, stability trimming tanks and oil rig sea legs. Product approved by Norwegian Food Safety Agency, NFSA.

To be used with: Seawater Dosing System with Timer Functionality (777320)

Product number: 778918

Evaporator Defoamer 4x5 Ltr

Concentrated antifoam for prevention of foaming problems in seawater evaporators.

To be used with: Potable Water Dosing System with Timer Functionality (777318)

Product number: 638676

RO Surfactant Cleaner™ 25 Ltr

Developed for the cleaning of reverse osmosis (RO), nano-filtration (NF) and ultra-filtration (UF) membranes, it is formulated based on an anionic surfactant and is highly effective in removing colloidal and other organic matter.

Product number: 777201

RO Bisulphite™ 25 Ltr Liquid 38-40%

A solution of sodium hydrogen sulphite (sodium bisulphite) used in the preservation of RO membranes and as a de-chlorinating agent.

Product number: 777852

Hydrochloric Acid 33-35% Potable Grade

Potable grade Hydrochloric Acid for pH reduction potable water. Product certified to NSF/ANSI/CAN 60 or local potable grade.

To be used with: Potable Water Dosing System with Timer Functionality (777318)

Product number: 773408

Vaptreat™ 25 Ltr

Concentrated liquid blend of polymer and antifoam agents for controlling scale and foam in evaporators or fresh water generator.

To be used with: Potable Water Dosing System with Timer Functionality (777318)

Product number: 571364

RO Scale Control™ 25 Ltr

A broad spectrum scale inhibitor for Reverse Osmosis systems and membranes.

Product number: 777716

RO Mild Acid Cleaner 25 Ltr

A membrane cleaner specifically designed to remove fouling by iron and light calcium carbonate scaling. The efficacy of RO Mild Acid Cleaner can be enhanced by the addition of RO Alkaline Cleaner to the cleaning solution although some minor pH correction may be necessary.

Product number: 777715

Potable Grade Sodium Hypochlorite

This product is formulated to chlorinate and control bacterial growth in potable water. Product certified to NSF/ANSI/CAN 60 or local potable grade.

To be used with: Potable Water Dosing System with Timer Functionality (777318)

Product number: 909001

Corrosion Shield 20-1"

Designed to reduce potable water system corrosion and scale challenges with unique approach of filtration, corrosion and scale control. Product complies to DM25, ACS, NSF/ANSI 42, NSF/ANSI/CAN 60 standards.

Product number: 735101 (Launching in end of Dec 2024)

Seawater Dosing System with Timer Functionality

A safe banded spill catchment chemical storage and direct dosing system. It reduces chemical handling by directly dosing from chemical pails, hence, improving the Health & Safety controls related to chemical handling & dosage. It comes with a timer functionality pump allowing more control over both dosing rate and quantity required per day.

Product number: 777320

pH/ EC/ TDS/ Salinity Multi Pen Tester

The Multi tester is a WHO and EPA 150.1 approved testing method that offers reliable and precise usability for testing drinking water quality, ensuring accurate detection of key parameters such as pH, Conductivity, TDS and Salinity and compliance with safety standards.

Product number: 568692

Potable Water Test Kit

The Potable Water Test Kit range enables ships staff to monitor the quality of the drinking water on board the ship. It provides EPA Method 9223 B Colilert approved tests for important operational control parameters and verification tests for bacteria that can be of risk to human health, in accordance to the MLC 2006 recommendations. See reagents required for Total Coliforms/ E Coli and other parameters below.

To be used with: Total Coliforms/ E Coli Test Kit (777932)
Intestinal Enterococci (778416)
Total Heterotrophic Bacteria (778413)

Product number: 778419

Aquafilter System

A comprehensive and compact water purification system designed to improve portable drinking water on board vessels for crew through an accurate combination of prefiltration, water softening, granular activated carbon with special KDF® Media and Ultrafiltration treatments.

To be used with: Drinking Water Cooler with Heater INOX 220V (700050)
6M Filter Cartridge Replacement Pack (779260)
Stainless Steel Drinking Water Bottles (625295)

Product number: 779260



Potable Water Dosing System with Timer Functionality

A safe banded spill catchment chemical storage and direct dosing system. It reduces chemical handling by directly dosing from chemical pails. Hence, improving the Health & Safety controls related to chemical handling & dosage. It comes with a timer functionality pump allowing more control over both dose rate and quantity required per day.

Product number: 777318

Turbidity Meter (Digital)

Compliant with EN ISO 7027, the turbidity meter (digital) is an approved EPA testing method that enables fast, precise on-site testing. It measures scattered light at 90°, following EN ISO 7027 standards. With a range of 0.01-1100 TE/F = NTU = FNU, it suits various applications from drinking water to wastewater. Using infrared light, it tests both coloured and colourless liquids effectively.

Product number: 568695

MaxiDirect MD600

A handheld spectrophotometer that can be used to produce a wide range of accurate water tests. This instrument offers a unique ability in that it can be used, dependent upon parameter, with liquids, powders, tablets, or powder sachets, and is a WHO approved testing method. It is also compliant with EPA Method 330.5 (Chlorine); Method 130.2 for Copper and Method 3500-FE D for iron. See reagents required below.

To be used with: Free Chlorine (777073)
Iron (778645) and (777182)
Copper Reagent (778646) and (666667)

Product number: 777180

Drinking Water Cooler with Heater INOX 220V

The Drinking Water Cooler provides reliable hydration for ship crews in harsh conditions. Made from premium stainless steel with durable brass fittings, it is corrosion-resistant and easy to maintain. It operates silently using eco-friendly R-134a refrigerant, reducing wear and tear. The cooler also features a hot water function for added versatility.

To be used with: Aquafilter System (779260)

Product number: 700050



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for a closer look

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