

# Aquarius Automated System for Water Quality Management



**Aquarius** Automated System for Water Quality Management, on merchant ships, is a complete, end-to-end solution, easily retrofitted on any vessel, compliant with existing and emerging regulatory requirements, by IMO, ILO and WHO.

## **Drinking Water in the context of Ship's Sanitation:**

The on-board drinking water quality has been rather underestimated until recently

During the last decade a solid regulatory framework has been established gradually, safeguarding both the water quality itself, as well as the relevant mandatory proactive measures

Seeking compliance, it is frequently realized that the "as is" situation is not in-line with the regulations. Hence, corrective actions in both infrastructure and proactivity need to be in-place

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## **Unveiling Questions:**

- How do you define the gap between the "drinking" and the "fresh" water quality on-board?
- Is the drinking water sterilization an adequate disinfection measure to guarantee bacteria-free potable water?
- What control do you have over stagnating water, such as dead legs in the piping network or its sub-segments?
- How you become timely aware of a potential infection resulting in rapidly growing bacteria colonies in a part or in the overall drinking water service network?
- What are the instructions to the crew to defend a case like this?
- Is the hot water piping network actually disinfecting the water or accelerating further bacteria colonies development?

## **Drinking Water Quality:**

The on-board water quality profile is continuously monitored via a multitude of sensors, providing accurate measurements on:

- Total residual chlorine (TR-Cl)
- Temperature
- pH
- Turbidity

The water quality profile is cross-checked in a number of strategically positioned locations over the water service network.



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**Aquarius** Automated System for Fresh and Drinking Water Quality Management, on merchant ships, designed for water service network coverage, easily retrofitted on any vessel, is based on highest quality sensors and controllers. It offers full compliance with the existing and emerging regulatory requirements, by IMO, ILO and WHO.

#### System Highlights:

Chlorine dosimetric system has been evolved into an "intelligent" closed-loop automated system, ensuring optimal chlorination in the water storage tank, as well as the complete potable water network on ship.

Superchlorination process becomes fully automated, managed by the system. Few simple and clear instructions are provided by the system, on-screen, to the responsible crew member. All operation is interrogated via an HMI touch-screen.

The complete system, sensors, and valves, are controlled by a dedicated high quality PLC, while all data are conveyed onto any Ethernet-connected personal computer.

A special purpose software, part of Aquarius package, processes the historical data, over any period, producing the relevant ISM documentation, relieving ship management from a significant overhead.

The system is suitable "by design" for quick retrofit on any vessel.

#### Full Compliance with... International Health Regulations

Came into Force on the Jun'07  
New Ship Sanitation Control  
Exemption Certificates  
New Ship Sanitation Control  
Certificates

#### ILO Convention 178

Entered Into Force January 2009  
for > 500 gt  
Inspection Of Seafarers Working  
& Living Conditions  
Inspections Every 2.5 Years

#### ILO Maritime Labour Convention 2006:

Enters Into Force January 2012

#### WHO Guide to ship Sanitation V3

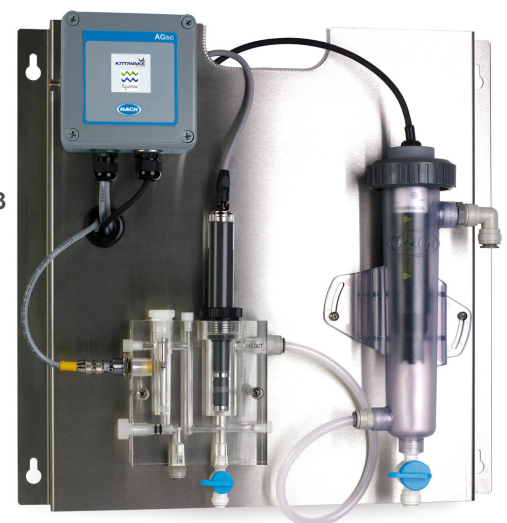
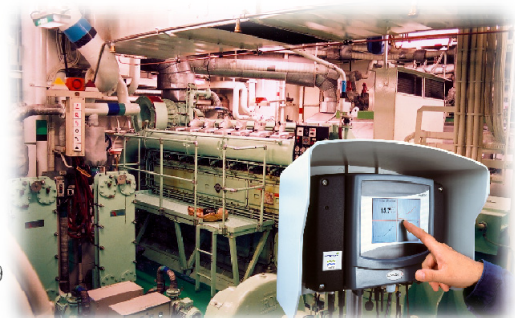
Due to be Published soon  
Reference Guide & Technical  
Document In The IHR 2005

#### MCA - MGN 397

Guidelines for the Provision of  
Food and Fresh water on  
Merchant Ships and Fishing  
Vessels  
Replaces MGN 61 (M+F) & MSN  
1214 and 1401

#### HPA – 2003

Guidelines for Water Quality On  
Board Merchant Ships, Including  
Passenger Vessels



#### More information:

[http://www.martechnicltd.com/  
PotableWaterQualityMgt.php](http://www.martechnicltd.com/PotableWaterQualityMgt.php)