



For your support.

**Fire safety upgrades
for Marine based
Marioff HI-FOG®
Systems**

Extending the firefighting system lifetime

Transitions towards more sustainable and more cost-efficient operations, driven by increasingly strict regulatory requirements throughout a vessel's lifecycle, require technologies that help shipowners and operators stay compliant and competitive. With the HI-FOG® system upgrades and extensions, we make the most of your asset by ensuring current and future demands of fire protection are met.

Your HI-FOG high-pressure water mist system needs may change over the years due to changes in the interior layout or adding new spaces that require fire protection, for example. When the structure of a vessel is modified, the HI-FOG system needs to be adapted. If you re-arrange or make system extensions, our experts will gladly assist you with any HI-FOG system upgrades or enhancements.

To ensure that the design exactly matches the new interior layout, contact our upgrade project team to receive professional feedback or suggestions as to how the system modification would affect the existing HI-FOG system.



HI-FOG system upgrades and extensions offer many benefits:

- Maintains compliance
- Increases safety and reliability
- Provides latest technologies
- Improves predictability for lifecycle costs

” *We were very pleased to be able to combine the inputs from the different systems. The Marioff flexible shipboard integration with other safety systems on board was critical in removing three other control cabinets from the installation requirements.”*

*- CSL Self Discharging Bulk Carrier
THUNDER BAY*



Improving the performance of your vessel's fire protection system

We offer a wide range of system upgrades. Below you will find the most common upgrades and enhancements for existing HI-FOG systems:

HI-FOG system enhancement

Your system can be enhanced and modified beyond what is required by the rules and standards to increase safety, e.g., by extending the local application system to cover turbos, hot boxes and below catwalks.

Water Treatment Unit

The quality of water in automatic sprinkler systems is of particular importance. In HI-FOG systems the quality of the water should be maintained in accordance with Marioff's water specification guidelines.

The HI-FOG Water Treatment Unit (WTU) enables the use of a wider water quality range in HI-FOG systems. Using this WTU extends the system's lifetime and also lowers corrosion rate when minimum water quality requirements are met.

The HI-FOG WTU is installed on the water feed side of the HI-FOG system. Water flowing through the pump unit activates the dosing unit, which in turn releases the appropriate amount of inhibitor chemical into the system.

Electrical Stand-by Pump

The HI-FOG Electric Stand-by Pump is used to maintain the stand-by pressure of the HI-FOG system. The Electrical Stand-by Pump upgrade is a replacement for the Pneumatic Stand-by Pump to improve reliability, safety, and save spare part and regular maintenance costs. The simplified design helps to ensure efficient and optimized maintenance of the system throughout its lifecycle.

Machinery test valves

With the HI-FOG Machinery Test Valve installation, you will save time, reduce costs, and simplify the annual service and inspection maintenance required by the IMO. It also makes it easier for crew to test release sections for training purposes.

PLC and touch panel upgrade

Renewing old Programmable Logic Controller (PLC) components and adding the touch panel will improve reliability, safety, and add new features like improved visual design, alarm log history, system pressure trend history, and monitoring of the solenoid functionality. It is also easier and more cost effective to modify in case of future extensions.

Deep fat fryer protection

Deep fat fryers (DFF) are one of the major sources of fires. Heat near large amounts of combustible liquid (cooking oil) creates a high fire risk. The HI-FOG system for deep fat fryers and ducts can be standalone installations or integrated into the main HI-FOG high-pressure water mist system on board, allowing extended firefighting.

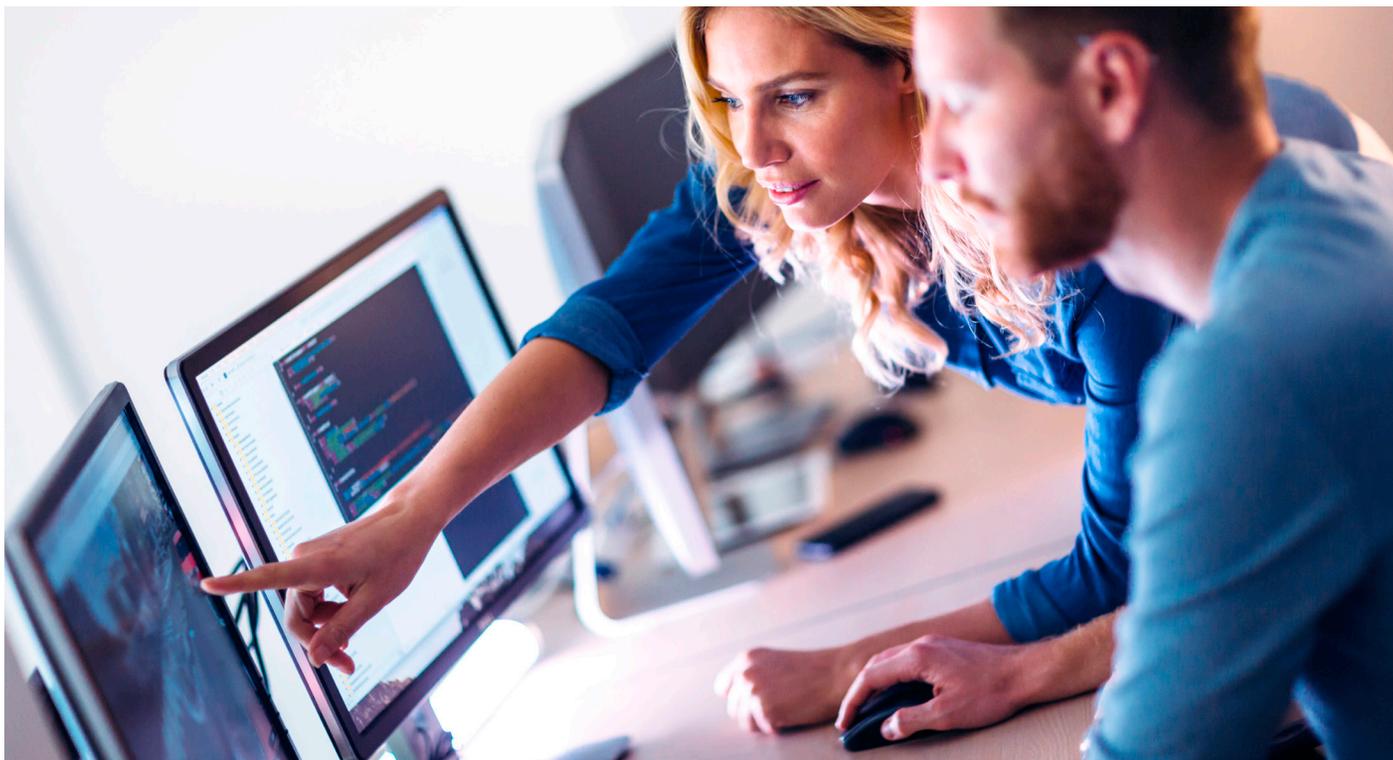
Transition from nitrogen to compressed air

Replacing nitrogen with compressed air in Marioff back-up cylinders adds safety on board, as the cylinders may be filled immediately during cruising, after release, without the need for external intervention. This upgrade saves time and costs, is safer for people, and does not affect approvals or certifications.

Turnkey project management expertise from start to finish

Together with your professionals, our upgrade team works out the best solution, making sure that all needs are met and project implementation is run smoothly alongside normal business operations. Our solution includes not only design and delivery of materials but also turnkey installation and commissioning.

Making regular fire safety upgrades is a budget-friendly way of adapting new technology to your existing fire protection system. Fire safety upgrades can reduce lifecycle maintenance costs and downtime and increase the safety of your vessel.



Marioff is a leading developer of water mist fire protection technology and supplies system solutions worldwide. The company's innovative HI-FOG water mist fire protection system controls and suppresses fire using significantly less water than conventional sprinkler systems, reducing water damage, cleanup time and operational downtime. For more information, visit www.marioff.com.



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Your safety is our expertise.

