



Marioff HI-FOG® water mist fire protection.

**Protecting hospitals  
day and night**



# A fire protection system to keep your hospital safe and operational

*Hospital fire response times are challenged by limited resident mobility. To best protect patients and personnel in the event of fire, hospitals need fast and reliable fire protection systems.*

*Marioff HI-FOG® is a proven fire protection solution that is safe to use in healthcare facilities. By using high-pressure water mist, it efficiently protects hospital buildings while posing no risk to patients or personnel. Fine water mist at high pressure swiftly controls and suppresses a fire while also minimizing water and smoke-related damage.*

Flexible and compact design make the HI-FOG system easy to implement in modern hospitals, and you can cover several departments and areas with one system. When your hospital's capacity expands, the system can grow with no need to invest in new pump unit in most cases. This keeps the total size of the system low, freeing up space for operations.

Thanks to its versatility, HI-FOG can replace all other fire suppression technologies within a hospital, making operation and maintenance much easier. It is also possible to equip the facility with HI-FOG fire hose reels for manual firefighting within the same system.

## **HI-FOG can protect the entire hospital:**

- Patient rooms
- Operating rooms, imaging centers (X-ray, NMR), ICUs
- Offices and staff facilities
- Canteens, kitchens and ducts
- Lobbies and corridors
- Technical spaces, IT rooms, laundry facilities and storages
- Car parks



*HI-FOG sprinklers activate when ambient temperature is high enough to break the bulb.*



*HI-FOG allows additional time for evacuation. Safe evacuation before circumstances become life-threatening is vital for patients with reduced mobility.*



See animation demonstrating the HI-FOG system in a hospital environment.  
<https://youtu.be/ew0GaF76hQs>



## HI-FOG fire protection system benefits

With Marioff, not only do you get a high-quality fire protection system, but also a complete end-to-end solution with professional support every step of the way, from design and turnkey deliveries to upgrades.

A HI-FOG system offers five main benefits:

### Less water damage

HI-FOG controls and effectively suppresses fire by discharging a fine water mist at high velocity, creating significantly less water damage than traditional sprinkler systems.

### Recover rapidly

With less water damage to critical equipment, such as surgery tools and NMR devices, you can quickly resume operation after a fire.

### Decrease renovation costs

Small diameter and lightweight HI-FOG tubing can be adapted to the hospital's architecture. Renovation can be executed in a fully operational hospital under strict hygiene requirements.

### Minimize reputation risks

A fire can cause a loss of reputation. With a top-notch fire protection system, patients and personnel will stay safe in your hospital. We'll help you to protect people and your operations.

### Safety during outages

The HI-FOG system can also deal with a limited water supply and can operate independently from the property's electricity, e.g. in a case of power outage.



# Your safety is our expertise

*As the pioneer of water mist fire protection technology, Marioff has unrivalled experience in installing fire protection systems for buildings both new and old.*

*Today, HI-FOG protects hospitals and care homes over the world. Each installation benefits from the know-how Marioff has gained from thousands of installations on land and at sea.*

## **Koukkuniemi Care Home, Finland – cost effective scalability**

Koukkuniemi is the largest care home in the Nordic countries, housing approximately 900 elderly people.

Koukkuniemi wanted to improve the fire safety of patients, as well as the buildings that were deemed high risk. The oldest of the buildings were built in the 1950s and 60s, at a time when anti-combustible materials were not used. Although they have since been renovated, chances are they would burn very quickly if ignited. These risks led to the care home needing to ensure that everyone could be safely evacuated in the event of an emergency.

Thanks to the higher working pressure compared with a traditional sprinkler system, the HI-FOG system was the most cost effective option, because it can protect the entire complex with a single pump station and compact water tank, whereas a traditional sprinkler system would have required separate pump units for each building and a duplicate water supply or large water reservoir.

*The HI-FOG system has allowed Koukkuniemi to overcome its challenging location and provide state-of-the-art fire protection to its residents.*



*HI-FOG can easily be expanded to cover Koukkuniemi's new buildings. Installations can be combined using the same integrated system.*



*HI-FOG tubing can easily fit into tight spaces.*



HI-FOG was installed in the older buildings with ease despite the lack of space. The system now protects all seven residential buildings, an administrative center, a maintenance center and a cafeteria, as well as a kilometer-long service tunnel that connects all the buildings.

Koukkuniemi has also expanded its complex to include a new building and the complete refurbishment of an existing one, and the HI-FOG system was effortlessly expanded to cover this new development using the same pump.

Koukkuniemi's Technical Unit Supervisor Leo Koski has been very pleased with the system and its easy maintenance. HI-FOG uses very little water, making it easier to flush the pipes during maintenance. This, in turn, results in better water quality and a longer life cycle for the pipes.

The installation of the HI-FOG system has been carefully planned to ensure minimal interference in the hospital's daily operations.

## **Central Pori Hospital, Finland – ensuring safe evacuation**

The Central Pori Hospital added a new building for newborn intensive care, maternity nursing rooms and patient wards. HI-FOG was needed to ensure critical patient and hospital personnel safety by allowing quick evacuation times.

The project was a turnkey delivery including the sprinkler control system, installation, commissioning, training and a service agreement.

Installations were easy and fast, due to the small-dimensioned pipe sizes. Bent pipes were installed precisely to fit the existing structures, offering the flexibility that is often needed for quick construction and future layout changes.

**” In case of a fire situation, hospital personnel can evacuate patients faster when there is less smoke. Water mist helps to minimize smoke and improves the safety of our patients and staff.”**

*– Ari-Pekka Laine, Safety Manager, Central Pori Hospital*

**” It was possible to protect the entire hospital complex with a single pump station. Thanks to the easy installation, HI-FOG really was our only choice.”**

*– Leo Koski, Technical Unit Supervisor,  
Koukkuniemi Care Home.*











**“ HI-FOG fulfills the two primary requirements at Motala Hospital: conserving space and minimizing water consumption.”**

– Jonathan Kristiansson, Director of Building Projects for the county of Östergötland.

## Motala Hospital, Sweden – flexible installation throughout the renovation process

Specializing in orthopaedics and internal medicine, Sweden's Motala Hospital is Western Östergötland's center for general medical practice.

When embarking on a complete renovation, the hospital needed a high-performance and flexible fire protection solution which would not complicate the modernization of the 35-year-old facility. It could not access the local water supply for the purposes of fire protection, so the County Council wanted a solution that would not require large and costly water reservoirs.

HI-FOG was chosen to protect the entire hospital, as it takes up minimal space and uses a very small amount of water. The system is fed by a compact, standalone water tank and pump unit that is installed in a basement causing minimal footprint and leaving plenty of room for patient care and maintenance activities.

With the HI-FOG system fulfilling its fire protection requirements for years to come, Motala Hospital is able to safely continue its legacy of healing the community.

## Ernst von Bergmann, Germany - protecting people and property

The Ernst von Bergmann Hospital focuses on specialized medical services. The hospital was therefore in need of a fire protection solution that not only protects the patients and personnel, but which can also guard the actual building and its life-saving contents.

A live demonstration at Marioff's premises convinced the customer of HI-FOG's performance and minimal water use. Furthermore, the hospital could compensate for the authority's structural fire protection rules with HI-FOG. In Germany, it is mandatory to fit fire-rated materials in every escape route which, in this case, would have meant the installation of costly measures such as fire-resistant windows. The HI-FOG system eliminated the need for a number of these procedures without compromising on safety.

The system has now been installed in many areas of the hospital, including the crucial radiation treatment machines and laboratories, as a part of renovations.



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**“ We decided to install the HI-FOG® system in our hospital because we could compensate the authority's structural fire protection requirements. We experienced a live demonstration at Marioff's Berlin office which convinced us of HI-FOG's performance.”**

– Thomas Schuder, Divisional Director of Technical Equipment and Installation, Ernst von Bergmann gGmbH.





## Lifetime support

Marioff certified service engineers help you to maintain your HI-FOG system and to operate it economically – from commissioning to upgrades and extensions. They train, operate and maintain HI-FOG systems according to applicable FM and VdS Approvals, NFPA Standards and local requirements. Your personnel can also get custom-made training programs to deepen and refresh their knowledge of the system.

Every hour of every day, our dedicated service call center reacts promptly to your needs and provides quick action. As the original manufacturer of core HI-FOG components, we offer an extensive spare parts availability. Our strategically-placed and well-stocked service hubs make it possible for us to deliver spare parts fast.

**We are at your service all over the world.**

*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 safely 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](http://www.marioff.com).*



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