

# Fire fighting excellence

*HI-FOG<sup>®</sup> water mist fire protection*





# Protecting people, property and business continuity

Marioff is the world's largest supplier of water mist fire protection technology. Since its introduction to the market in 1991, HI-FOG® has been the forerunner, renowned for its performance and reliability the world over. The greatest reward is the growing list of fires successfully suppressed or extinguished by HI-FOG®.

## **Leading the fight against fire**

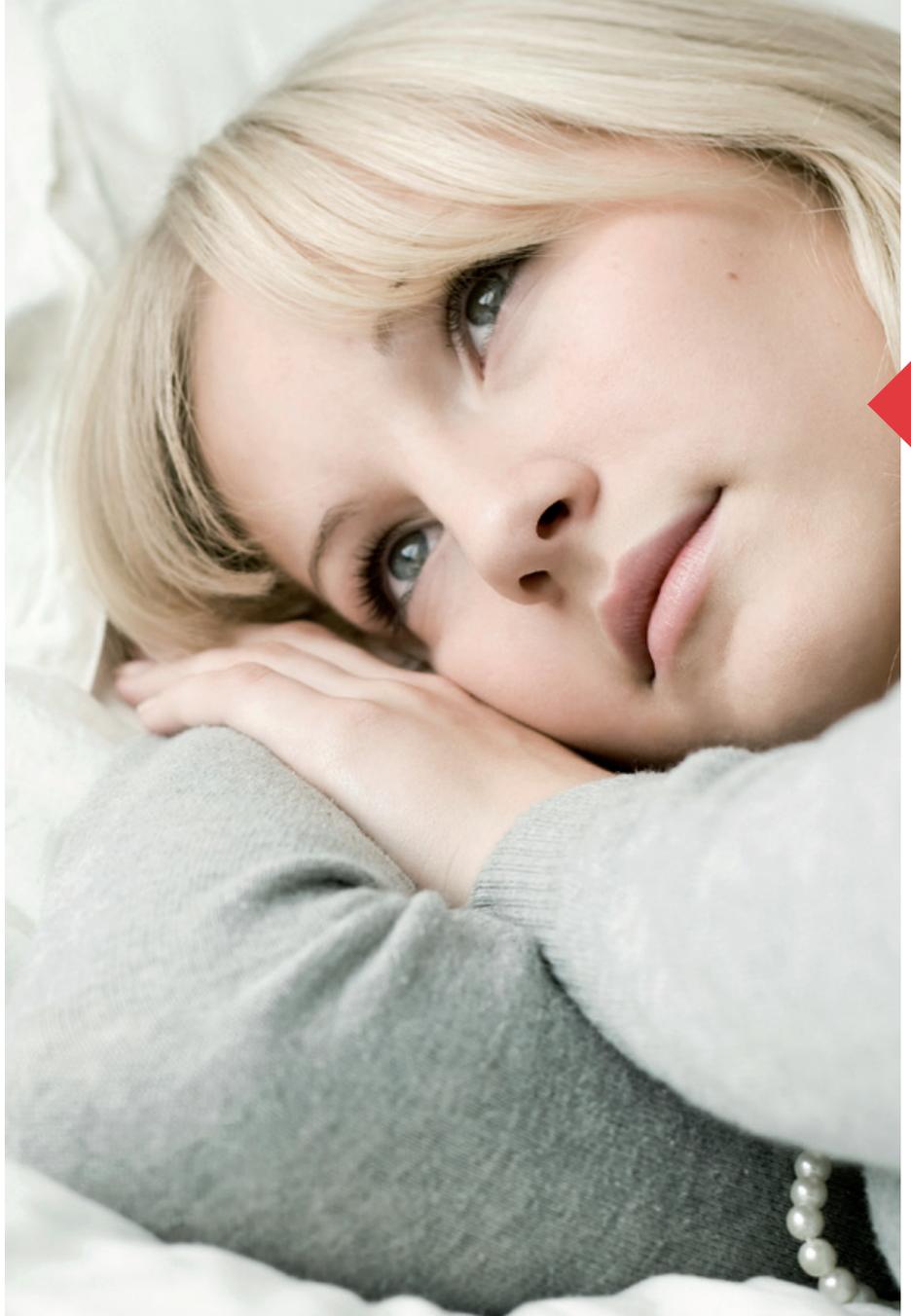
Providing the best possible fire protection solution for each customer has always been the main driver for Marioff. Marioff pioneered high pressure water mist technology and helped establish the standards for water mist fire protection.

Marioff continues to build upon its history of success, developing leading solutions in close cooperation with local and international regulatory authorities. Applying this know-how in thousands of installations world-wide, HI-FOG® is synonymous with the best in water mist fire protection.



**HI-FOG® provides fire protection for:**

- Buildings
- Transportation and infrastructure
- Industry and energy
- Marine and offshore



**Case - sleep easy**

Marriott International, Inc., is known for its strict life safety requirements and rigorous inspection program. Marriott's Fire Protection and Life Safety Design Standards recognize HI-FOG® as a practical alternative to traditional sprinkler systems. The flexibility and performance of HI-FOG® enable it to be used in a range of applications, both in new structures and retrofits.

**Providing a peace of mind for customers world-wide**

A trusted solution at sea, HI-FOG® protects many types of vessels, from large cruise ships, to exploration rigs, to navy submarines.

On land, the range of applications steadily grows as HI-FOG® protects all kinds of structures, including hotels, hospitals, data centres, gas turbines, machinery spaces, traffic stations, and more. Type-approved, application-specific systems that exceed safety standards are designed to provide reliable fire protection on land and at sea.





# High performance fire protection

HI-FOG® is the result of unceasing and relentless research and development. By combining a deep knowledge of how fire behaves with a strong understanding of codes and regulations, HI-FOG® performance and reliability are outstanding.

HI-FOG® has been tested in more full-scale fire tests than any other water mist fire protection system and ranks among the most widely certified.

#### **HI-FOG® water mist in action**

HI-FOG® is a high pressure water mist system that produces a fine mist of extremely small droplets, using less water than traditional sprinkler systems for the same application with equivalent or better performance.

HI-FOG® fights fire using three main mechanisms: cooling the fire itself and the air surrounding it, blocking the radiant heat, and displacing the oxygen from the seat of the fire. The small droplets vaporize fast, absorbing heat very efficiently.

#### **Minimum damage and completely safe**

Keeping business running is a priority in good fire protection. HI-FOG® provides added benefits of rapid suppression and control, minimizing damage and cutting short business downtime. The pure water mist of HI-FOG® is equally valuable in terms of human safety.

#### **Easy implementation**

Designers, consultants, architects and installers find HI-FOG® remarkably easy to work with. Narrow tubing that can be bent into position on-site, compact pumps and discrete spray or sprinkler heads fit into retrofits as easily as new structures.

#### **Save with HI-FOG®**

HI-FOG® leads to real savings on the bottom line. Costs can be cut by including HI-FOG® in the early design phases of a project.

HI-FOG® even brings with it a freedom to design without the restrictions of more conventional approaches. For example, HI-FOG® allows architects to create bigger open spaces and can even eliminate the need for passive fire protection measures like fire rated windows, special coatings, and fire curtains.

# ection



## Case - tunnel safety

Fast, effective fire suppression is critical for roadway tunnels. The A86 West tunnel in Paris, is the largest European road tunnel to be protected with an active fire protection system. This 10 km (6,2 mi) tunnel, which links Rueil-Malmaison and Versailles, is protected by HI-FOG® and represents the largest water mist fire protection system ever built.

Helsinki Service Tunnel running 2,5 km (1,6 mi) east to west under the Finnish capital downtown, is also protected by HI-FOG® — marking Finland's first active tunnel fire protection system.

### HI-FOG® key benefits:

- **Fast:** immediate activation and rapid cooling
- **Safe:** harmless to people and the environment
- **Proven:** success in countless tests and real fires
- **Low water usage:** minimized damage

## Water savings



In a controlled demonstration, one HI-FOG® nozzle discharged around 380 liters (100 gallons) of water in 30 minutes using a gas-driven pump unit.



A traditional sprinkler system, in turn, discharged some 3,600 liters (951 gallons) from a single nozzle within the same time period.



# Customer commitment

HI-FOG® is backed by a team of professionals who share a commitment to help create safe environments for a true peace of mind.

Marioff along with its authorized distributors offer complete dedication from system design through delivery and services, even in the most challenging projects.

## **Dedication to quality**

To maintain high standards of quality, Marioff controls the entire system development process. Raw materials are obtained only from selected suppliers who can ensure the best grades. Manufacturing of key components is carried out entirely in-house.

Every installation of HI-FOG® is taken seriously. A proactive approach is used in each case, assisting in finding the right combination of fire fighting measures, taking care of approvals – whatever is needed ensure customers and their business are protected as best possible.



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### Case - cruise control

At 220,000 gross registered tons, Oasis of the Seas, operated by Royal Caribbean Cruises Ltd., is 40 percent larger than any other cruise ship ever built. Providing fire protection for a vessel of this size required a seasoned project management team and fire safety solutions that meet the highest industry standards, while also minimizing space and weight requirements. Today, Oasis of the Seas and its sister ship Allure of the Seas, are protected by HI-FOG®.



### Operational excellence

Marioff provides services for the whole life cycle of the HI-FOG® system. Marioff Services cover everything from rapid delivery of spare parts to customized, long-term service agreements.

Commissioning of the system is carried out by skilled service engineers to ensure compliance with the design specifications. Preventive maintenance, troubleshooting and 24-hour Emergency Service are designed to ensure timely response world-wide.





HI-FOG® 2000-series  
sprinkler



HI-FOG® 1000-series  
sprinkler



HI-FOG® sprayhead



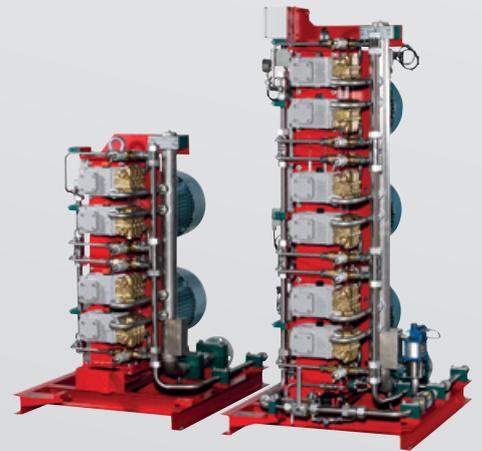
The HI-FOG® system uses small diameter stainless steel tubes.



The high quality HI-FOG® tubing bends easily around corners and obstructions



HI-FOG® gas-driven pump unit (GPU)



HI-FOG® modular electric pump unit (MSPU)



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