

Five star fire protection

HI-FOG® for hotels



Protecting



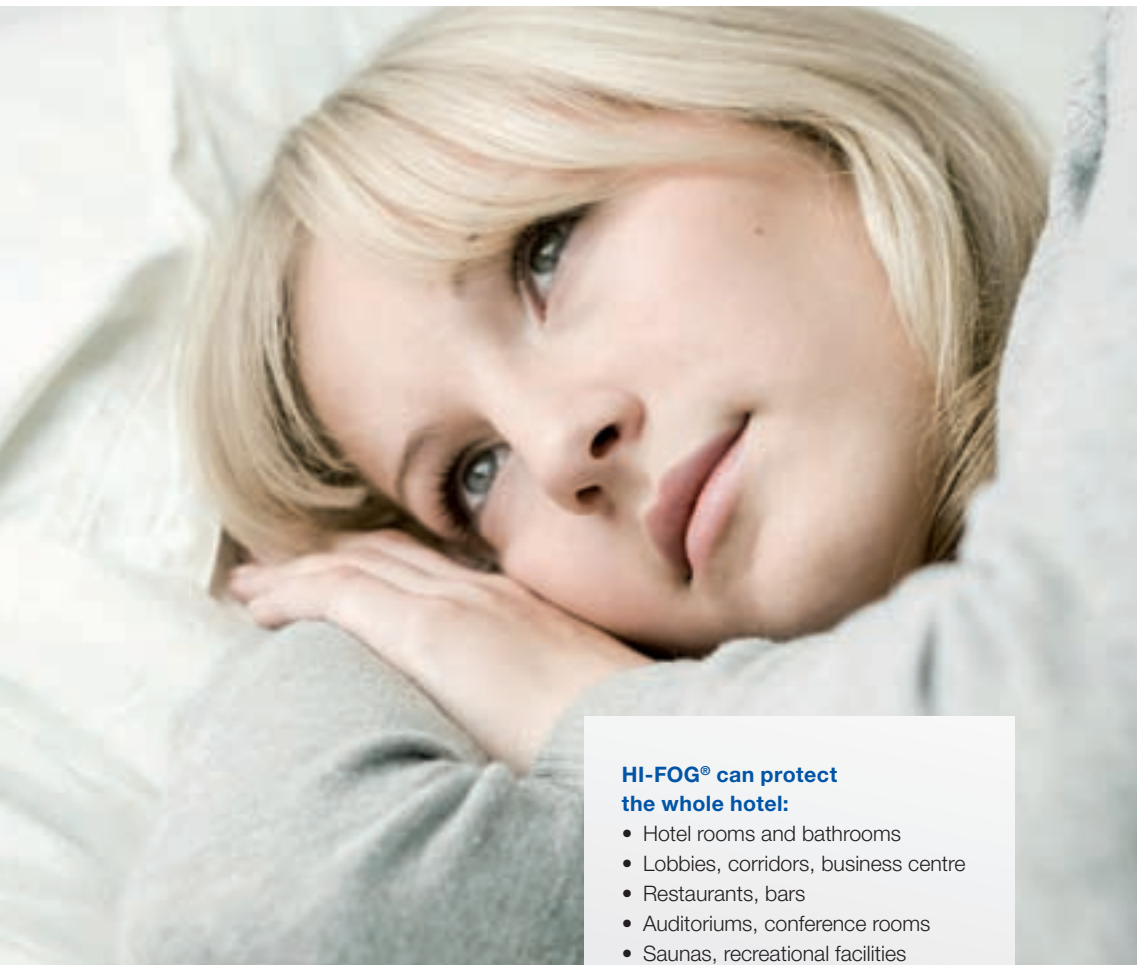
Le Méridien Etoile, Paris.
HI-FOG®-protected.



The HI-FOG® Water Mist Fire Protection System is the most modern and effective fire protection that technology can provide for your hotel. In case of fire it will protect your customers, your employees and your business using a minimum of water, causing a

minimum of mess. It's in the water mist. HI-FOG® microdroplets represent water in its most effective fire-fighting form: they penetrate fire like a gas and cool the surrounding air very effectively, suppressing the fire before it can spread. Soot particles bind to

your brand



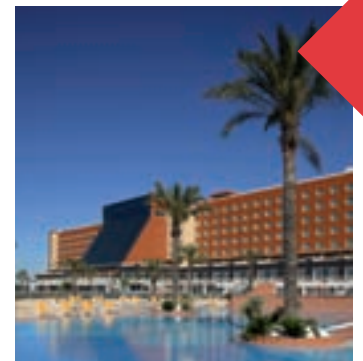
the mist, so smoke damage is minimized. Remarkably little water is used and downtime is kept to an absolute minimum. Your customers are inconvenienced as little as possible. Your brand is safe.

HI-FOG® can protect the whole hotel:

- Hotel rooms and bathrooms
- Lobbies, corridors, business centre
- Restaurants, bars
- Auditoriums, conference rooms
- Saunas, recreational facilities
- Kitchen, deep-fat fryers, ducts
- Technical spaces, storage rooms, laundry
- Car parks

A typical HI-FOG® system consists of:

- A high-pressure pump unit
- A small water supply tank (depending on local requirements)
- Small-diameter stainless steel tubing to distribute the water to the protected areas
- Ceiling-mounted or wall-mounted HI-FOG® sprinkler heads



Marriott Rome Park Hotel

HI-FOG® IS ARCHITECTURALLY FRIENDLY: its small-diameter, stainless steel tubing and small water requirement make it a pleasure to design into new hotels.



NH Hotel, Madrid

INSTALL HI-FOG® WHILE REFURBISHING: an excellent opportunity to upgrade your fire protection.






Marriott 47 Park Street Hotel, London

HI-FOG® IS IDEAL FOR RETROFITTING in hotels that are also heritage buildings.

Conventional sprinkler systems are good...

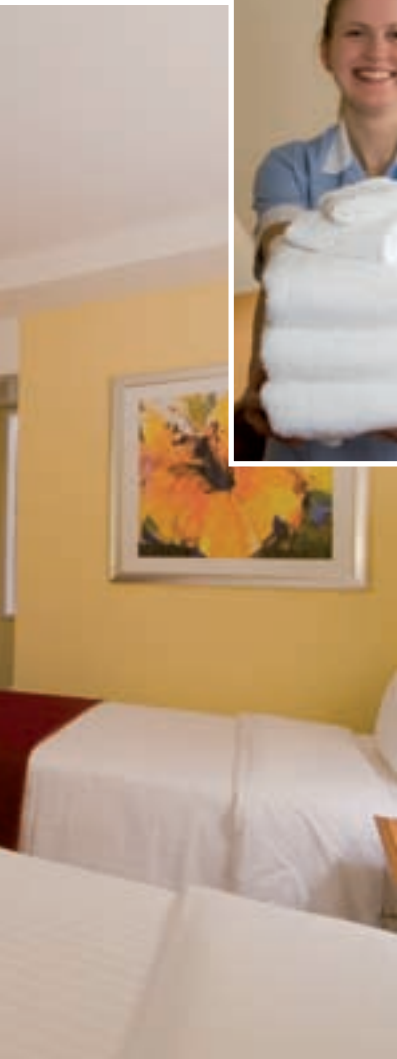
Conventional sprinkler systems work. They suppress hotel fires, saving lives. The damage they leave behind in the aftermath of a fire is a secondary consideration: deep soaking and widespread water damage, furnishings and fabric ruined by "black water", considerable clean-up and business downtime. The primary consideration is that the fire is out. At Marioff we recognize that conventional sprinklers protect against fire, but we make the case that HI-FOG® is the best fire protection a hotel can have. HI-FOG® deals with hotel fire more effectively than conventional sprinkler systems, with much less business interruption.



	Typical drop size range (mm)	Number of droplets per litre of water	Surface area (m ²)
 Conventional sprinkler / water spray	1 - 5	15 thousand to 2 million	1 - 6
 Low-pressure water mist	0.2 - 1	2 million to 250 million	6 - 30
 HI-FOG®	0.025 - 0.2	Superior cooling and local wetting capability 250 million to 150 billion	Superior blocking of radiant heat 30 - 250

The smaller the water droplet, the greater the surface area of the water in the volume of space and the greater the system's fire fighting effectiveness. HI-FOG® water mist is unparalleled in its ability to attack two of the three things that fire needs to grow – heat and oxygen (the combustible material being the third) – while being entirely harmless to people and the environment.

HI-FOG® is better



HI-FOG® uses up to 90% less water than a conventional sprinkler system when it activates. This is enormously beneficial both in case of fire and in case of accidental activation. In a HI-FOG®-protected hotel in Paris recently, the system was activated in a room. The room was misted for about 30 minutes before the system was shut down. The result? The

room was humid, to be sure, but far from ruined. It was open for business again in less than a week. Adjoining areas were totally unaffected.

Challenge: protect an ocean-going hotel that accommodates 4,375 guests

In April of 2008, the M/S Independence of the Seas sailed from the Aker Yard in Turku, Finland. Measuring 339 metres in length and 38 metres in width, the Independence of the Seas is a major investment in the future for Royal Caribbean International, the world's second-largest

cruise company. The company is a pace-setter in the surging cruise business, consistently pushing the boundaries of the cruise experience and emphasizing customer service and safety in every detail. This is why the M/S Independence of the Seas is protected from fire by the HI-FOG® Water

Mist Fire Protection System: when your 4,375 guests are at sea, being looked after by your 1,365 staff, far away from any fire brigade, you want the best fire protection that technology can provide.

M/S Independence of the Seas, facts & figures

- 339 metres long, 38 metres wide
- Accommodates 4,375 passengers and 1,365 crew
- 36 different accommodation options
- Amenities: theatres, skating rink, roller skating rink, golf simulator, water park, surfing simulator with wave machine, rock climbing wall, boxing ring
- Main restaurant serves 2,200 people across three levels
- 4,700 works of art
- Swimming pool
- 35 tons of ice cubes used per day

> The HI-FOG® protection

- Accommodation spaces
- Public spaces: restaurants, lounges, shopping areas etc.
- Galleys and other service areas
- Engine rooms
- 14,000 HI-FOG® sprinkler heads and spray heads
- Two electric pump units
- High-quality stainless steel tubing throughout

Royal Caribbean's M/S Freedom of the Seas is sister ship to the M/S Independence of the Seas. Photo courtesy of Royal Caribbean.

HI-FOG® protecting passenger cruise ships (short selection)

- Oasis of the Seas, delivery in 2009, will be the flagship of Royal Caribbean International and the world's largest passenger cruise vessel
- Seabourn Odyssey, delivery in 2009, will be the Seabourn Cruise Line's flagship and the world's most luxurious passenger cruise ship with gourmet restaurants, spas, and suites accommodating groups of up to 100 people
- Freedom of the Seas, went into service for Royal Caribbean in 2006; currently the world's largest cruise vessel; extremely well-appointed

- M/S Voyager of the Seas
- M/S Norwegian Jewel
- M/S Adventure of the Seas
- M/S Mariner of the Seas
- M/S Norwegian Gem
- M/S Freedom of the Seas
- M/S MSC Lyrica
- M/S MSC Poesia
- M/S AIDA Vita
- M/S Star Princess
- M/S Queen Mary II, world's second-largest cruise ship
- M/S Birka Princess
- M/S Paradise
- M/S Queen Victoria
- M/S Carnival Glory





Fire on a passenger cruise ship at sea is an inherently more dangerous proposition than fire in a hotel on land. HI-FOG® is protecting almost every large cruise ship in the world as operated by the world's most prestigious and safety-conscious cruise lines. HI-FOG® is central to cruise ship safety: hundreds of thousands of passengers cruise on HI-FOG®-protected ships every day. The system's performance record at sea is exemplary and the HI-FOG® brand is widely known and respected.

Lobby of the M/S Queen Victoria, photo courtesy of the Cunard Line.

Protecting hotels with a great heritage

Marioff understands the need for creative thinking when designing the HI-FOG® system for a heritage hotel and the need for a soft touch when installing it. We have a lot of installation experience in

heritage hotels and heritage buildings as a whole. In Venice alone, we have installed HI-FOG® in the Hotel Gritti Palace, Hotel Danieli, Hotel Trovatore, Hotel Gabrieli, Hotel Bucintoro, Hotel Palazetto

Stern, Hotel A La Commedia, Le Zitelle, Palazzo Genovese, Hotel Ca' Donà all'Angelo, Hotel Ca' Nigra, Hotel Palazzo Duodo, Hotel Saturnia and Palazzo Selvadego.



The HI-FOG® Water Mist Fire Protection System protects the Duchess Anna Amalia Library in Weimar, Germany. This library, a UNESCO World Heritage Site and a jewel in Germany's cultural crown, was where Johann Wolfgang Goethe worked for over thirty years as a librarian. It houses a priceless collection of manuscripts, medieval autographs, incunabula and works of art. In the library's Rococo Room, pictured above, the Marioff installers hid the HI-FOG® sprinkler heads artfully in cornices, making the system as unobtrusive as possible.



The Hotel Gritti Palace in Venice, overlooking the storied expanse of the Grand Canal, is one of the world's most celebrated hotels. It almost goes without saying that the Hotel Gritti Palace, and its equally celebrated sister Hotel Danieli, are protected by HI-FOG®.



A beautifully restored mansion, the NEXT Hotel Karhulan Hovi, Kotka, Finland.

New builds, refurbishing for the future

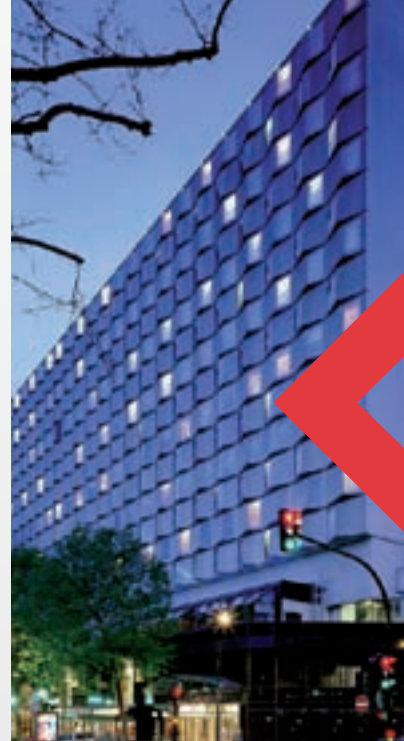


Lobby of the Marriott Rome Park Hotel.

If you are contemplating a major renovation, it is a good time to think about modernizing your hotel's fire protection. HI-FOG® will not extend the project timeline or introduce

unwanted complexity. On the contrary, your architect will appreciate the high quality of the HI-FOG® components, the low technical space requirement (compared to

conventional sprinkler systems), the low water requirement and the small tubing. This is just as true for new hotel projects.



Marriott Paris Rive Gauche Hotel and Conference Centre.

HI-FOG®-protected hotels (short selection)

- Holiday Inn, Rue Danton, Paris
- Radisson SAS Hotel, Paris Eiffel
- Marriott Regents Park, London
- Marriott Grand Residence, 47 Park Street, London
- Marriott Park Hotel, Rome
- Marriott Giardini Naxos, Taormina
- Renaissance Shelbourne, Dublin
- Renaissance Penta, Vienna
- Renaissance Barcelona Airport
- Renaissance La Defense, Paris
- Renaissance Wagram, Paris
- Renaissance Rive Gauche, Paris
- Le Méridien Etoile, Paris
- Renaissance Amsterdam
- Four Seasons, Florence
- Karhulan Hovi, Kotka Finland
- Arctic Circle Hotel, Suomulahti Finland
- Palazzo Salvadego, Venice
- Palazzo Duodo, Venice
- Hotel Saturnia, Venice
- Ca'Nigra Hotel, Venice
- Hotel Gritti Palace, Venice
- Hotel Danieli, Venice

Holistically HI-FOG®



Marioff understands that you are in the customer comfort business. Your brand value exists in the minds of your customers, and it grows every time they have a good experience in your hotel. The HI-FOG® Water Mist Fire Protection System helps your brand grow safely. This is a long-term proposition, and Marioff supports HI-FOG® over the complete lifecycle of the system.

Design services

Marioff will design the right HI-FOG® system for your hotel based on the number of floors, number of rooms, and any special requirements like deep-fat fryer or duct protection in the kitchens.

Installation

Marioff is expert at installation. In a working hotel, HI-FOG® is installed floor by floor and wing by wing, scheduled in accordance with your hotel operations to avoid inconveniencing your guests. Because HI-FOG® uses very little water, it requires very little space. HI-FOG® tubing is much smaller in diameter than conventional sprinkler piping (as small as 12 mm).



Service and maintenance

Marioff provides a full palette of services to ensure that your HI-FOG® system stays in peak condition throughout its lifecycle.

Training

As part of your overall safety regimen, Marioff will train your staff to operate and maintain the HI-FOG® system to make sure it performs at its best when it really matters – all the time.

Actual size



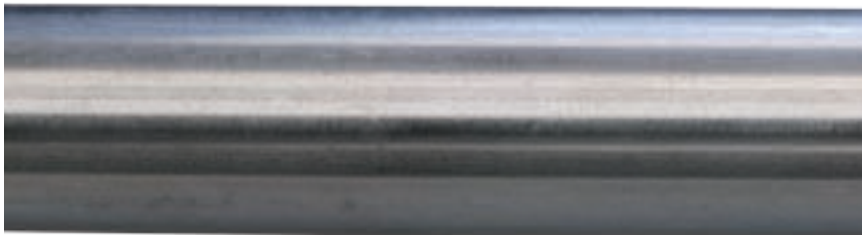
Actual size



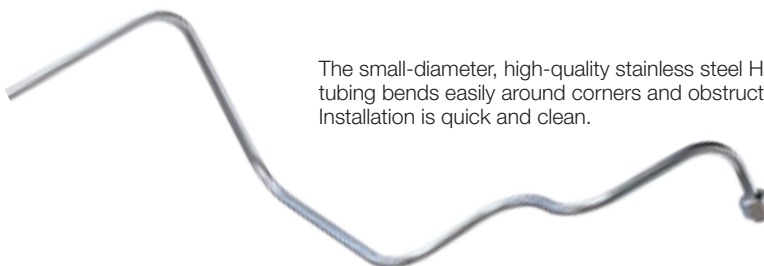
HI-FOG® sprinkler heads for hotels are available in chrome, gold and antique finishes.



12 mm stainless-steel HI-FOG® tube.
Final tube to the sprinklers. Actual size.



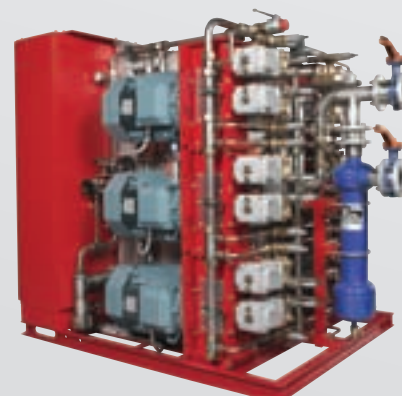
30 mm stainless-steel HI-FOG® tube.
Main tube from the pump. Actual size.



The small-diameter, high-quality stainless steel HI-FOG® tubing bends easily around corners and obstructions. Installation is quick and clean.



The HI-FOG® high-pressure, gas-driven pump. An option when the HI-FOG® system is required to be entirely independent of mains electricity.



The HI-FOG® high-pressure, electrically-driven pump. The standard option for large hotels.

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