



**ULTRA FOG<sup>®</sup>**  
FIRE EXTINGUISHING SYSTEM



High pressure water  
mist sprinkler system  
for fighting fires





## Ultra Fog: A World Leader in the Development and Application of custom Quality fire protection solutions.

Ultra Fog AB is an international company headquartered in Gothenburg, Sweden. Ultra Fog specializes in the development, design and application of high performance high pressure water mist sprinkler systems. Research, product development, manufacturing and component assembly are carried out in the HQ facility. Ultra Fog has a wide range of experience providing quality fire protection solutions for many complex projects in commercial, industrial, marine, and offshore facilities. Ultra Fog fire protection solutions are custom designed to meet worldwide fire safety regulations.



### Fire Protection Marine

#### **Marine Applications**

Cruise ships, Ro-Ro, Ro-Pax, tankers, naval vessels, historic ships, special purpose vessels, luxury yachts.



### Fire Protection On Land

#### **Land Applications**

Hotels, commercial offices, shopping malls, schools, historic buildings, museums, restaurants, construction, care homes, hospitals, power plants.



### Fire Protection Offshore

#### **Off-shore Applications**

Machinery space, engine rooms, thruster rooms, control rooms, accommodation, spaces, turbine enclosures, galleys, deep fat fryers and ducts, paint lockers.







Traditional sprinkler system



90% LESS WATER

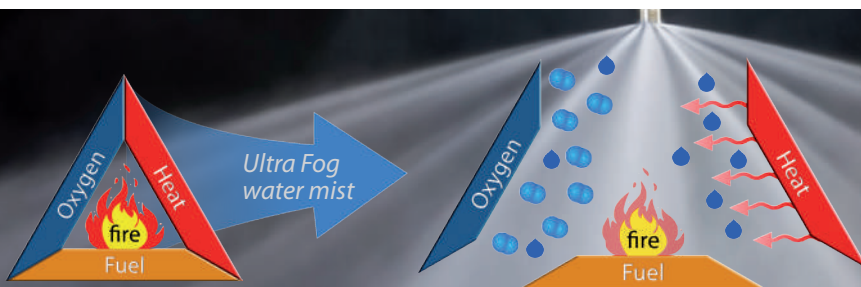
Ultra Fog water mist sprinkler system

## Effective High pressure/High Performance Water Mist Solutions.

Ultra Fog high performance water mist fire suppression uses up to 90% less water than conventional sprinkler systems.

High pressure water mist is very effective in extinguishing fires. The Ultra Fog High pressure / High performance water mist fire protection system produces a very fine mist of micro water droplets by forcing clean water through a specially designed patented high pressures nozzle. In a fire scenario the resulting mist reduces the heat in the enclosure very quickly, the expansion of the mist from water to steam aids the suppression process by reducing the amount of oxygen feeding the fire.

Clean water used in Ultra Fog systems, filtered by the pump station, is non-toxic, environmentally friendly and people safe.



The efficiency of the system is in the water mist micro-droplets that fight the fire in three ways:

- cooling the space,
- attenuating radiant heat
- displacing the oxygen that reaches the fire

### Ultra Fog Nozzles

The highly engineered nozzles are designed and assembled with few components to ensure high operational reliability, minimizing energy loss which translates to a very efficient nozzle that delivers excellent performance; both ceiling and wall mounted versions of the nozzles are available, installation is easy.





*Test tool supplied with a hose to collect water to a container for measuring of flow, k-factor and flushing of pipes*

## Why Ultra Fog is your best choice?

1. Ultra Fog: custom designed, highly engineered, quality manufactured fire suppression systems!
2. The mist developed by the performance of Ultra Fog high pressure patented nozzles has a definitive cooling effect on a fire.
3. The fine mist actually “cleans” the smoke, helping to remove particles of combustion.
4. Extinguishing effect of mist relative to the amount of water used is extraordinary.
5. Fast extinguishing – fast automatic sprinklers with low RTI value or by detectors.
6. Rapid expansion of water droplets reduces the oxygen in the fire zone.
7. Risk of flash over is substantially reduced or reduced to ZERO.
8. Using less water than conventional sprinklers reduces drain sizes and reduces the amount of hazardous waste generated from discharge.
9. Using less water than conventional sprinklers reduces the amount of water required to be stored. Less room, less weight.
10. Small stainless steel pipe dimensions result in less weight, ease of installation, and pipe networks that are easy to conceal.
11. Aesthetically pleasing nozzles.
12. The only wet sprinkler able to be tested while in service using Ultra Fog’s Patented Test tool.
13. WATER, the ultimate green agent, environmentally friendly, people safe and readily available.
14. Fire systems that have fast response are highly effective, quick and easy to put back into service.





# Ultra Fog delivers fire protection solutions for marine environments: Vessels, Passengers, Crew and Cargo.

Ultra Fog specializes in delivering high pressure high performance water mist sprinklers to provide fire protection across a wide range of marine vessels.

Ultra Fog fire suppression systems have been developed to meet existing worldwide marine safety regulations. When activated, water is forced through ULTRA FOG high performance nozzle orifices at high pressure; the result is extremely small water droplets being forced into the fire plume. The small droplets are converted from liquid to vapor generating copious amounts of steam, which cools the environment, smothers the fire by reducing oxygen levels, while protecting the enclosure from flashover.



Thierry Ameller - Benetti Yachts

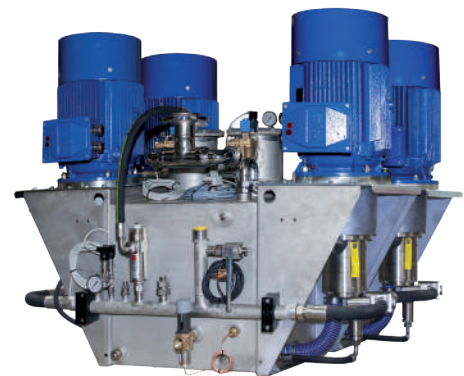
## Ultra Fog Marine Classification Testing and Approvals.

The Ultra Fog Water Mist System is rated as Class 1 according to the National Fire Protection Association Code (NFPA, USA), attesting that Ultra Fog has the smallest average droplet size, which ensures an effecting cooling of the fire and surrounding area.

The Ultra Fog's Water Mist System has been fire tested by the Swedish Test Laboratory (SP) and SINTEF, Norway, both of which are fully authorised by IMO, the Southwest Research Institute (SwRI), United States and laboratories in Denmark.

- Ultra Fog has been tested and approved according to the IMO Res. A.800(19) and IMO Res MSC 265(84) for accommodation areas, stores and service areas.
- IMO MSC/Circ. 847, activation by detectors as an alternative to the glass bulb.
- IMO MSC/Circ. 1165 and MSC/Circ. 913, machinery areas, total flooding in pump rooms and local applications.
- IMO MSC 1272, protection of RoRo and special category spaces.
- IMO MSC 1268, protection of balconies.
- ISO 15371, for protection of galley ducts and cooking equipment (including deep fat fryers).
- A performance Effectiveness Analysis was carried out by DNV, Norway.
- Component testing by the laboratory of FM (Factory Mutual), USA.
- USCG (United States Coast Guard) approved.

Our test procedures began in 1991 and are constantly being renewed in order to include new fire protection applications, new standards and regulations, and improved nozzle performance.



Main Pump Unit with one extension



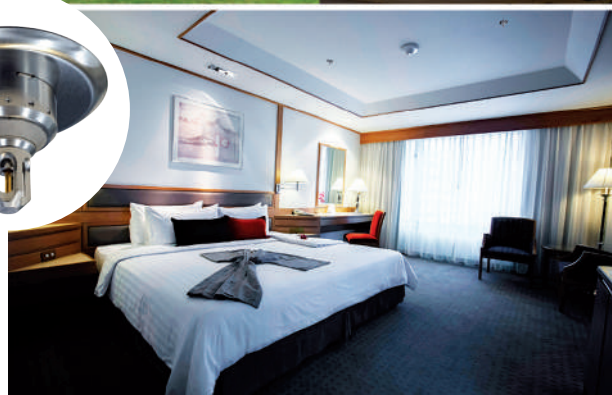
Pump Station MPU335



# Delivering fire protection solutions for commercial, industrial and heritage properties.

When installed in commercial or industrial properties; Ultra fog high pressure water mist fire protection systems provide efficient, reliable solutions. When used in extremely sensitive environments such as heritage type buildings Ultra Fog systems are not only reliable but because they use less water than conventional sprinkler systems there is less damage after a fire event.

The Ultra Fog system when connected to an early warning detection system allows for a quick response to a fire condition. Together, early detection, fast response, and low water consumption save valuable property, sensitive equipment or art and protects building occupants.



## Ultra Fog Land Classification Testing and Approvals.

Our systems are designed according to CEN/TS 14972, NFPA 750 and fire tested according to standards from FM (USA), SP (Sweden), Sintef (Norway). This is in addition to being component tested by FM (Factory Mutual) and full scale fire tested according to the following standards:

- FM 5560 (turbine and machinery spaces (<260m<sup>3</sup> to 1320m<sup>3</sup>).
- FM 5560 (Light hazard occupancies) - HC1.
- IMO MSC/Circ. 265/84, for protection in public areas such as bedrooms, storage, corridors, restaurants and service areas.
- IMO MSC/Circ. 913, for local application in machinery spaces.
- ISO 15371, for protection of galley cooking equipment (including deep fat fryers).
- CEN/TS 14972 OH1, OH2, OH3, OH4.
- CEN/TS 14972 - Annex B, for warehouse up to 12,5m.
- CEN/TS 14972 - Annex B, for HHP (1 to 4) warehouse.
- SP method 4912 fire suppression system on vehicle (Buses, Coaches, Vans and Cars).
- INSTA 900-3 Nordic residential sprinkler.

Our manufacturing is quality assured according to EC Directive 96/98 EC MED and according to ISO 9001. Certified according to Lloyd's Register. Our test procedures began in 1991 and are constantly being renewed in order to include new fire protection applications, new standards and regulations, and improved nozzle performance.



Micro Pump station



Pump Station P35





# Delivering fire protection solutions for Marine and Offshore facilities.

Safety for life at sea is a priority in all offshore environments. Ultra Fog systems use safe, environmentally friendly CLEAN water as the suppressant agent in offshore rigs and platforms, ships, production vessels, as well as offshore support and commercial vessels.

The Ultra Fog system can be connected to various forms of detection equipment for early fire detection and immediate activation. Together, fast response with low water consumption save valuable structures, their occupants and property.



## Ultra Fog Offshore Classification Testing and Approvals

The Ultra Fog Water Fog System is rated as Class 1 according to the National Fire Protection Association Code (NFPA, USA), attesting that Ultra Fog has the smallest average droplet size, which ensure effective fire fighting performance.

- Ultra Fog's Water Mist System has been fire tested by the Swedish Test Laboratory (SP) and SINTEF, Norway, both of which are fully authorized by IMO, and the Southwest Research Institute (SwRI), United States and laboratories in Denmark.
- Ultra Fog has been tested and approved according to the IMO Res. A.800(19) and IMO Res MSC 265(84) for accommodation areas, stores and service areas.
- IMO MSC/Circ. 847, activation by detectors as an alternative to the glass bulb.
- IMO MSC/Circ. 1165 and MSC/Circ. 913, machinery areas, total flooding in pump rooms and local applications.
- FM5560 Turbine and Machinery in Enclosures.
- ISO 15371, for protection of galley cooking equipment (including deep fat fryers).
- A performance Effectiveness Analysis was carried out by DNV, Norway.
- Component testing by the laboratory of FM, USA.

Our test procedures began in 1991 and are constantly being renewed in order to include new protection applications, new standards and regulations, and improved nozzle performance.



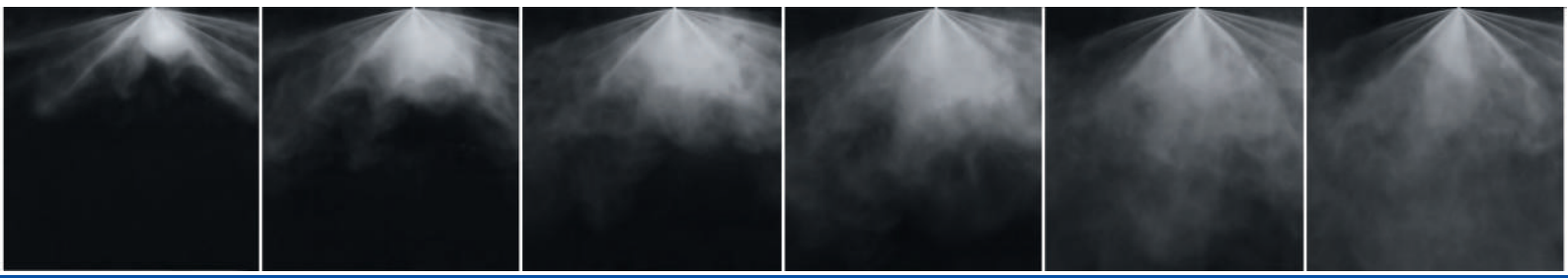
Main Pump Unit with one extension



Modular accumulator unit fire fighting skid



Since 1990 quality and experience in custom water mist fire protection solutions



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Ultra Fog 603 Type Bulb Nozzle



Ultra Fog 202 Type Open Nozzle



Ultra Fog Type Foam Open Nozzle



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