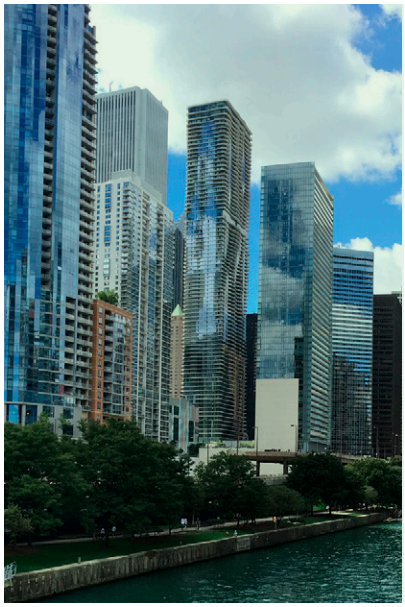
ULTRA FOG®
FIRE EXTINGUISHING SYSTEM

High-pressure water mist fire protection

www.ultrafog.com

A world leader in the development and application of custom quality fire protection solutions.

Ultra Fog is an international brand founded in Gothenburg, Sweden, in 1990. The company specializes in the development, design and application of high-pressure water mist systems. This high-performance product line results from continuous research and development, quality controlled manufacturing, extensive certification and type approvals. Ultra Fog's global reach, aftersales service and maintenance provision ensures that customers benefit from lifelong product reliability and protection.



Marine applications

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

Land applications

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

Off-shore applications

Machinery space, engine rooms, gas turbine enclosures, power generator transformers, acumulator units, control rooms.

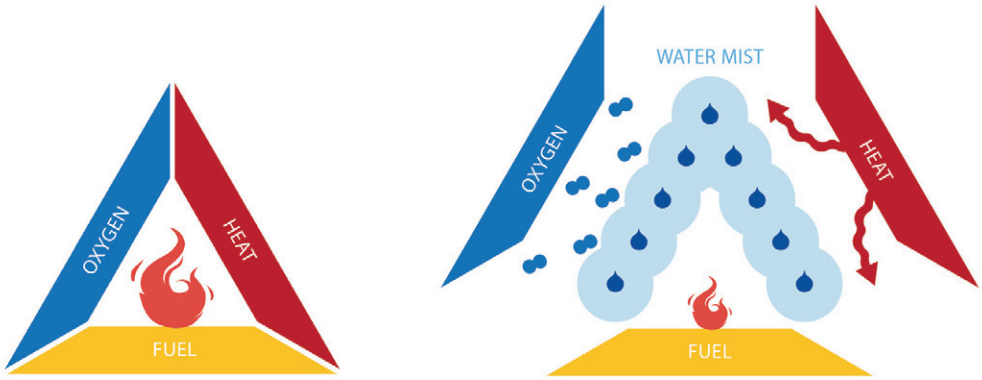
Rolling stocks applications

Single and double decks trains, high-speed trains, locomotives, metro lines.

Ultra Fog water mist system provides ultimate protection for an extensive range of applications.

How does it work? High-pressure pumps force water through the stainless steel Ultra Fog water mist nozzles, discharging the water in the form of millions of tiny droplets – typically 30 – 200 µm diameter.

An activated system will create a blanket of water mist droplets that maximise heat absorption from the fire and subsequently displacing oxygen upon evaporation and expansion of the water mist as it converts to steam. Water mist systems are differentiated from sprinkler systems by mist's unique ability to present a much greater water surface area (enabling rapid heat absorption), combined with the mist's ability to remain suspended in the air for a much longer duration – thereby creating more exposure time for the heat absorption to take effect. This enables water mist systems to cool and suppress fire using considerably less water than sprinkler systems.



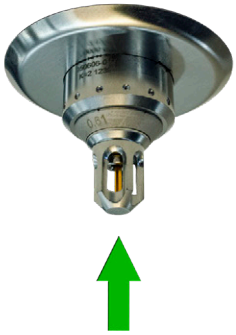
The efficency of the system is in the water mist micro-droplets that fight the fire in three ways:

1. Cooling the space. 2. Attenuating radiant heat. 3. Displacing the oxygen that reaches the fire.

Ultra Fog Nozzles

The highly engineered nozzles are designed and assembled with minimum components to ensure best 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, along with very simple installation.

Ultra Fog 603 type bulb nozzle



Ultra Fog 202 type open nozzle

Ultra Fog pateneted test tool

Ultra Fog type deep fat fryer nozzle

Ultra Fog type foam open nozzle

Features and Benefits

- Custom-designed, efficiently engineered, quality manufactured fire suppression systems.
- Major cooling effect when the water droplets transform into vapour.
- Very high extinguishing effect relative to amount of water.
- Less damage to equipment and faster restoration.
- Rapid expansion of water droplets reduces the oxygen in the fire zone.
- Highly effective fire system with fast response, which is easy to be put back into service.
- Environmentally friendly, safe for people and highly reliable for customers.
- The risk of flashover is substantially decreased or reduced to zero.
- Using less water than conventional sprinklers radically reduces storage space requirements: less space, less weight.
- Small stainless steel pipe dimensions result in less weight, simple installation, and pipe networks that are easy to conceal.
- Reduced dirt dimensions will keep the amount of wastewater to a minimum.
- Reduced downtime and clean up costs following a fire event.
- The only sprinkler able to be tested while in service using Ultra Fog's patented test tool.
- Aesthetically pleasing nozzles that can be painted in any color the customer prefers.

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

Marine

Delivering fire protection solutions for marine environments: vessels, passengers, crew and cargo.

Ultra Fog fire protection system can be integrated into almost all categories of marine vessels, including Special Purpose Vessels, High-Speed Crafts, Special Crafts, Passenger Vessels, Cargo, Tankers, Pleasure Crafts, Military Ops, Fishing Vessels, and others.
The system uses a reduced quantity of water. It has an unlimited discharge time, enabling the vessel to cope effectively even with the most severe fire event. The water use is non-toxic and can be safely discharged without the need to evacuate passengers and crew.
A single nozzle can protect up to 48m2. This wider spacing passes on a considerable saving to the customer in reducing the cost and time required for system installation. As a turnkey solution, Ultra Fog has emerged as the 'Best in Class' in terms of price, quality, and water/power consumption requirements.

Master pump unit

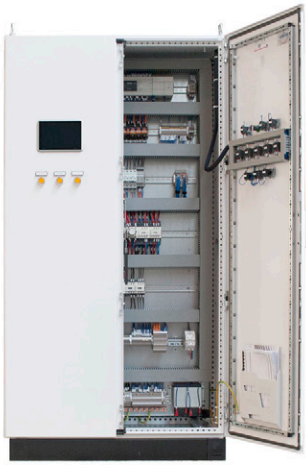
Pump station P35

Land

Fire protection solutions for commercial, industrial, residential, heritage properties, as well transport vehicles.

When installed in commercial or industrial properties, the Ultra Fog water mist fire protection system provides an efficient, secure and compact safeguard. Installation of the system in a heritage building is indispensable because it reduces the damage in case of a fire. The small amount of water used saves all the precious masterpieces from fire, and more significant, from water. In addition, because of low water consumption and, therefore, lightweight, the system can be easily placed in various vehicle types such as buses, trucks or heavy equipment transport. The Ultra Fog system is connected to an early warning detection alarm which allows prompt response to a fire condition. Together, early detection, fast reaction, and low water consumption save valuable property, sensitive equipment, precious works of art, and protects building occupants.

Micro pump unit with pilot pump



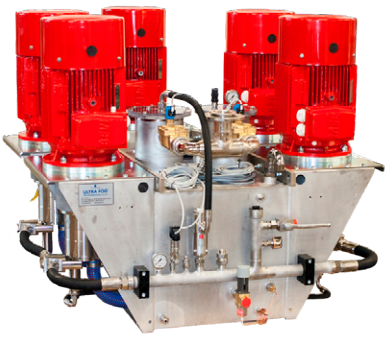
Electrical cabinet

Gold covered nozzles

Offshore

Fire protection solutions for offshore and marine facilities.

All the works performed on oil and gas drilling rigs are characterized by major fire and explosion risks. The jeopardies increase when crude oils, chemical products, and sophisticated machinery are concentrated in a limited space. A potential fire breakout can start quickly, sometimes without any warnings, making prevention almost impossible. Ultra Fog's high-pressure water mist system is particularly suited to offshore applications, providing efficient, quick release fire protection using potable water. We offer custom made solutions and state of the art engineering ideas for marine environments because every platform is unique. Stainless steel pipes and fittings, explosion-proof components, reduced system weight and dimension together with our patented and approved nozzles will ensure the staff and the platform maximum safety levels.



Main pump unit with one extention

Modular accumulator unit fire fighting skid

Modular accumulator unit

Rolling Stock

Ultra Fog delivers high-pressure water mist fire protection solutions for rolling stock.

The protection of rolling stock presents specific challenges for fire fighting. The system must be sufficiently compact and light weight to fit within the confines of a high speed railway vehicle. It must also be capable of rapidly suppressing a fire to prevent its spread, and to enable safe evacuation of passengers and crew. The light weight design, and reduced water requirements of Ultra Fog high-pressure watermist provides a safe, efficient and flexible solution for the protection of rolling stock assets and passengers.

Train accumulator

Horizontal train accumulator

Testing & Approvals

Since 1990, Ultra Fog has been committed to a continuous programme of product development and fire testing in response to the latest rules, regulations, and standards around the world. Ultra Fog products are 3rd party tested and approved, in accordance with internationally recognised test protocols. Ultra Fog water mist is rated as Class 1 according to the National Fire Protection Association Code (NFPA, USA), meaning that the droplet diameter of 90% of the spray is 0.2mm or less, thereby maximising the surface area of the water, to maximise the cooling performance of the mist.

Ultra Fog's Water Mist System has been fire tested by the Swedish Test Laboratory (SP), SINTEF - Norway and Danish Fire Laboratory (DFL), which are fully authorised by IMO, and the Southwest Research Institute (SwRI), United States and Baltic Fire Laboratory (BFL).

Marine and offshore classification testing and approvals:

- IMO Res. A.800(19) and IMO Res. MSC.265(84) for accommodation areas, stores and service areas
- IMO MSC/Circ.1165 and MSC/Circ.913, machinery areas, total flooding in pump rooms and local applications
- IMO MSC.1/Circ.1272 and IMO MSC.1/Circ.1430, protection of RoRo and special category spaces
- IMO MSC.1/Circ.1268, protection of balconies
- IMO MSC/Circ.1387, local applications
- ISO 15371, for protection of galley cooking equipment (including deep fat fryers & galley hood)
- A performance Effectiveness Analysis was carried out by DNV, Norway
- Component testing by the laboratory of UL, USA

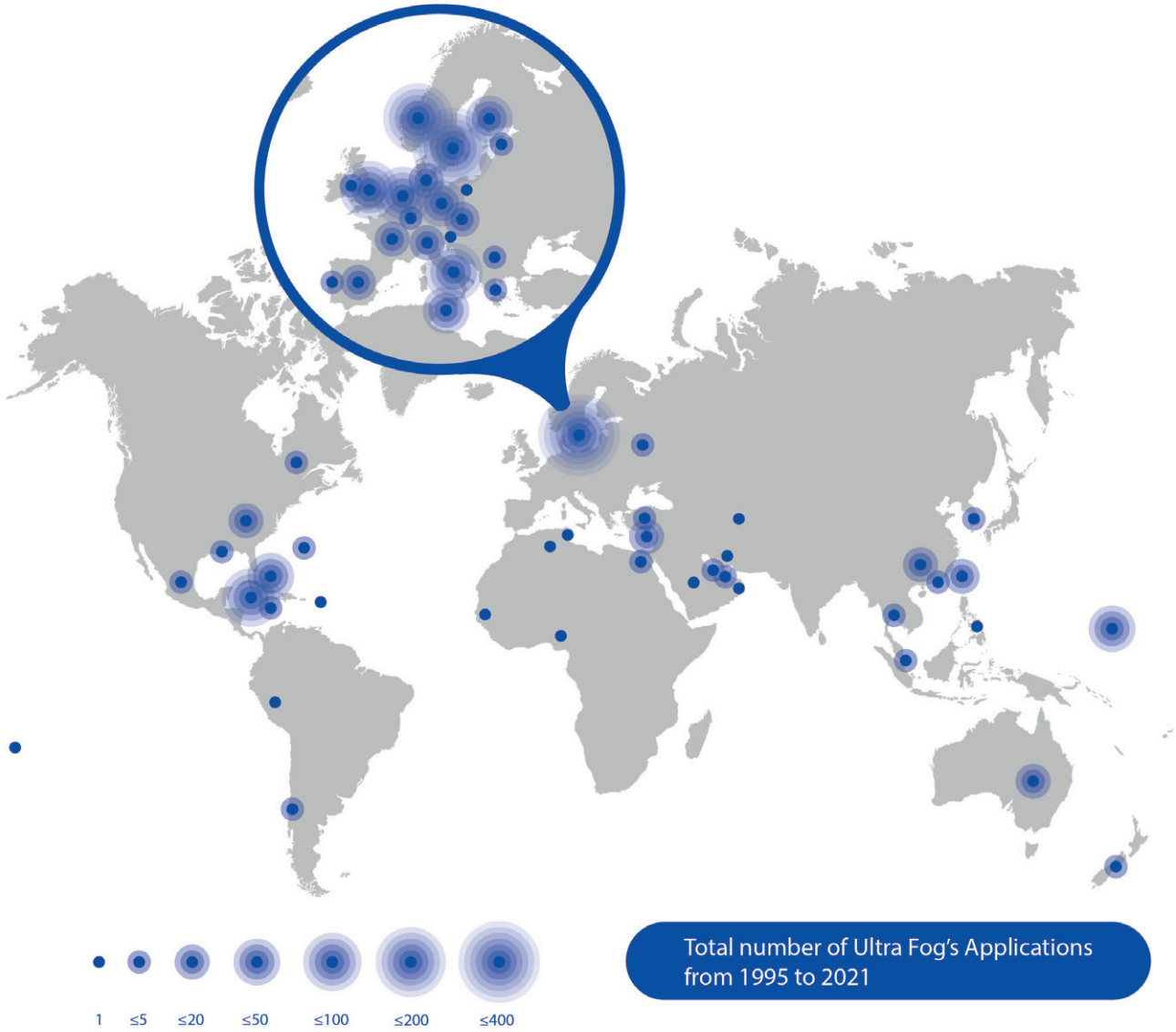
Land fire testing, type approvals and compliance:

- FM5560 Non-Storage Occupancies, HC-1, Part 4 EN14972
- FM5560 Turbine and Machinery in Enclosures, Part 14 and 15 EN14972
- Part 3 EN14972 OH1
- Part 10 EN14972 Annex A OH4
- Part 2 EN14972 Annex A OH3
- Part 5 EN14972 Annex A OH2
- Part 7 & 17 EN14972 Annex A, Residential Water Mist Systems
  - BS 8458 – Domestic and Residential Water Mist Systems
  - BS 8489 – Commercial and Industrial Water Mist Systems
  - NFPA 750
- Archive / Library CEN TS 14972 Annex B, ref. fire report BFL2020/TP02/001 and BFL2020/TP02/009
- Part 12 EN14972, Fat Fryer & Galley Hood
- Component testing by the laboratory of UL and FM
- Tunnel: Uptun, Aplus guideline full scale fire test.
- Vehicle / Diesel Train: Regulation No. 107, Revision 7, Annex 13; Train test specification ALn663

Rolling stock classification testing and approvals:

- Standard: UNI 11565 (Design, Installation, Validation And Maintenance Of Fire Detection And Extinguishing Systems To Be Utilized In Rail Vehicles – General Principles)

Service & Maintenance



Ultra Fog's service and support keeps your system in optimal condition.

With the proper care and maintenance, Ultra Fog offers protection at all times, even within the most demanding environments. The company provides servicing and maintenance for your sprinkler system, given by our trained engineers, to ensure the water mist system's long-term reliability. Ultra Fog also offers technical training for both distributors as well as customers.

Contact Ultra Fog global service network for maintenance, spare parts, or to sign up for a service contract.

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Local Ultra Fog Distributor

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