

SUPPLIER OF
LOW PRESSURE
WATER MIST TECHNOLOGY
FOR FIRE SUPPRESSION

WWW.PREVENT-SYSTEMS.COM

**PREVENT
SYSTEMS**

**WHEN SAFETY
IS TAKEN SERIOUSLY**



OUR HISTORY

INNOVATION

The history about our innovative solutions goes back to 1987. Back then our current Head of Technology started developing water mist nozzles for fire suppression.

The systems were originally developed for the maritime sector and are found on board cruise liners, ferries and yachts all over the world. When founding Prevent Systems AS in 2007, the focus was shifted to the land-based market.

“Our innovative solutions have made us a market-leader within research, development and distribution of automatic fire extinguishing systems with low pressure water mist.”

Prevent Systems was the first company to meet the test requirements for the Nordic residential water mist standard, INSTA 900-3, and the British water mist standards for residential and domestic, BS 8458, and for low hazard occupancies, BS 8489. We were also the first company to obtain LPCB certification for water mist nozzles, listed on RedBookLive.com. More than 25 years of research and development experience enables us to deliver innovative patented fire protection technology to the fast growing residential market, as well as for light- and ordinary hazard applications. This includes apartment buildings, care institutions, hospitals, hotels, office buildings, schools parking garages and cultural heritage buildings.





WE SET NEW STANDARDS FOR FIRE SUPPRESSION AND SAVE LIVES

Each year thousands of people die in building fires. In addition to lives lost, fires cost owners and society billions of euros in damages.

As a result, authorities around the world are implementing stricter regulations, requiring the installation of automatic fire suppression systems. Especially in buildings that house those most at risk, the elderly and disabled.

A solution that is becoming more prevalent and in demand, is water mist. Mainly because it requires significantly less water than traditional fire suppression systems, and is proven to be very effective in controlling and extinguishing fires.

The most efficient solution

Our patented low pressure water mist technology has been tested in full scale fire tests at SP Fire Research (formerly Sintef NBL, Norway), SP Technical Research Institute of Sweden and BRE Global in the United Kingdom. The comprehensive tests show that our water mist systems suppress a fire as good or better than traditional systems, in the fire tests performed. This is accomplished by exploiting water more efficiently, allowing us to use far less water than traditional systems.

The efficiency is due to the fact that the fire is attacked from all three sides of the Fire Triangle simultaneously:

- **Heat** - The smaller droplets absorb the heat from the fire, and lowers the temperature quickly.
- **Oxygen** - The fine droplets in and around the fire «boils» over from water to steam, or water vapor, which is an inert gas. This conversion to water vapor, dramatically increases the volume of water, up by almost 1700 times. The water vapor displaces the oxygen, and suffocates the fire.
- **Fuel** - The droplets that are not converted to water vapor, will wet the surrounding area and prevent the fire from spreading.

The combination makes the system unique compared to traditional automatic fire suppression systems.

Certified safety

Prevent Systems was the first company to obtain certificates for water mist nozzles from Loss Prevention Certification Board, one of the world's most recognized certification institutions. The water mist systems are fire tested in full scale fires at accredited fire laboratories according to international standards, with full documentation for applications to be protected - as regulations require. Applications include hotels, apartment buildings, schools, daycare facilities, office and commercial buildings, care homes, hospitals, institutions and heritage buildings.



Loss of lives and damage to the environment

Building fires represent approx. 40% of all fires in the world. Most fire deaths occur in private homes while people are asleep. Fire damage results in annual compensations – amounts which run into billions of dollars on a worldwide scale. Therefore, many insurance companies reward installation of automatic fire suppression systems in residences and other properties by offering lower insurance premiums.

ADVANTAGES OF LOW PRESSURE WATER MIST

Fire suppression systems from Prevent Systems are based on low pressure water mist technology. Low pressure water mist offers a large number of advantages both to specialists and users. Advantages which make the solutions attractive compared to traditional systems.



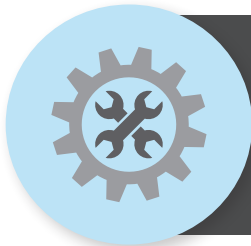
Efficient fire suppression

Comprehensive fire tests speak for themselves: Our water mist systems control and extinguishes fires at least as good, or better than, traditional suppression systems in tests performed. By exploiting the water more efficiently considerably smaller amounts of water is required compared to traditional sprinklers.



Documented and certified

Prevent Systems water mist systems are fire tested in full scale fires at accredited fire laboratories according to international standards, with full documentation for applications to be protected. Our water mist nozzles were the first to be certified by LPCB and listed on RedookLive.com



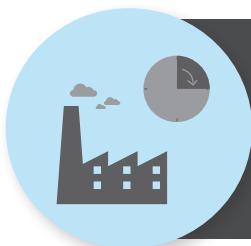
Easy and fast installation - Discrete and space-saving design

Since our systems require less water, the water intake can be smaller, and all pipes and fittings are smaller. This results in easier and space saving installations, a greater architectural advantage, which is very important to builders, architects, contractors and owners.



Water damage proof systems offered

With the unique PrevPex “pipe in pipe” system Prevent Systems offers a leakage proof, exchangeable piping system. This system requires that the pipes are filled with water, and that the pipes are installed behind a fire retardant surface. The system is especially well suited for embedding in concrete floor dividers, either poured on-site, or pre-made elements hoisted into place.



Eco-friendly high quality components

Low pressure water mist technology use small components, which require less amount of material to manufacture, and more eco-friendly to transport and store. All components are of high corrosion free quality, designed to last the life of the building without considerable need for replacement and maintenance.

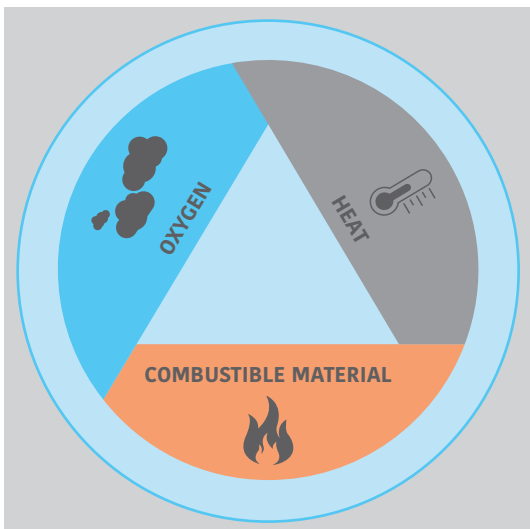
FIRE SUPPRESSION WITH WATER MIST – FROM A PRACTICAL STANDPOINT

Water mist is defined as water droplets less than 1mm in diameter. Water from the mains or a tank, flows through distribution pipework and is “atomized” to many very fine droplets, as it passes through a water mist nozzle. Many tiny water droplets create a greater total surface area per liter of water.



Combines the size of droplets

The water mist solutions from Prevent Systems combine both the small and somewhat larger water droplets. The smaller droplets absorb the heat from the fire and lowers the temperature quickly. The fine droplets in and around the fire 'boil' over from water to steam increasing the volume of water by almost 1700 times. This process displaces the oxygen and suffocates the fire. The droplets that are not converted into water vapour will wet the surrounding area and prevent the fire from spreading.



In other words, the solution attacks all three sides of the fire triangle effectively!

HOW DOES THE WATER MIST AFFECT THE ENVIRONMENT?

The water mist solutions from Prevent Systems ensure that the fire suppression system respects the environment. It involves a non-toxic fire-fighting medium with long life high quality components. The water mist systems only require pure water and thus does not contain any poisonous chemicals. The solutions from Prevent Systems are also designed to last the life of the building. We obtain the long durability by way of high quality components with corrosion-proof pipes and parts requiring a minimum of maintenance.




Reduced water consumption

Water mist is a solution that is becoming more prevalent and in demand. Mainly because it is proven to exploit the water more efficiently and therefore requires significantly less water than traditional fire suppression systems.



Reduced material consumption

Less water requires a smaller water intake with smaller dimension pipes that are lighter, easier, faster and space-saving to install. The result is significant reduced material consumption and energy consumption in connection with production and transport.



24/7

Like having a fireman on watch 24 hours a day

An automatic water mist system reacts quickly on temperature. Most fire scenarios are extinguished within few minutes from system activation.

80%

The water consumption can be reduced by as much as 80%

The water mist solutions are high-efficient and can use as little as one fifth of traditional sprinklers' water consumption.

1:1700

1 litre of water = 1,700 litres of steam

Water mist solutions utilise the heat from the fire to reduce water consumption. The heat makes the water expand so 1 litre of water turns into almost 1,700 litres of steam or water vapour, under optimized conditions.

SOLUTIONS

Low pressure water mist is the automatic fire suppression system of the future. With hundreds of installations, our solutions have proven to be very cost competitive and yielding a very attractive total economy. Our solutions protect thousands of residences and other building types, from hotels, offices and commercial buildings to institutions, schools, day-care facilities, care homes, hospitals and heritage buildings.

Residences

The water mist solutions offer safety and are connected to the existing water supply with regular water pressure. The solutions are for instance found in 500 apartments at the Bread Factory (Brødfabrikken) in Oslo, Norway.



Schools and institutions

Low pressure water mist ensures efficient fire protection of schools, kindergartens and other institutions. The solutions are for instance found in the kindergarten called The Building Block (Byggeklossen) in Harstad, Norway.



Hospitals

Extinguishing with water mist makes the following clean- up faster and ensures minimal interruption of daily operations.



Commercial premises

Offices, shops and other commercial premises are fire protected with low pressure water mist. The solutions are found in several office buildings, e.g. Tykkemyr in Moss, Norway.



Hotels

Solutions from Prevent Systems are discrete and merge nicely with architecture and interior. For instance, the solutions are found in the Saga Hotel in Oslo, Norway.



Buildings worth preserving

Water mist solutions are easy to install and ensure safe protection. For instance, the solutions are found in Windsor Castle in the United Kingdom.



NOZZLES

Nozzles from Prevent Systems are available both as ceiling and wall models. The nozzles are approved for protecting residential, light- and ordinary hazard applications.

The nozzles have been tested to the following standards: BS 8458, BS 8489, BS 9252, INSTA 900-3, IMO Res. 265(84) Public Space and CEN Test Protocol Parking V1.

Prevent Systems offer 10 years of product guarantee on all nozzles.



PreV2exp

For light and ordinary hazard applications, including offices, schools, retail and general public space areas in hospitals, hotels, care home institutions, etc.

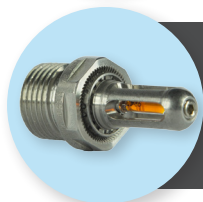
Type of nozzle: Pendent
Max coverage area: 16m²
Water pressure: 8.4 bar
K-factor: 13.4



PreV2up

For light and ordinary hazard applications, including parking car garages, offices, schools, retail and general public space areas in hospitals, hotels, care home institutions, etc.

Type of nozzle: Upright
Max coverage area: 16 m²
Water pressure: 8.4 bar
K-factor: 13.4



PreV3exp

For residential and domestic applications including homes, care institutions, apartment buildings, and sleeping areas in hospitals, hotels etc.

Type of nozzle: Pendent
Max coverage area: 16m²
Water pressure: 5.2 bar
K-factor: 14



PreV3con

For residential and domestic applications including homes, care institutions, apartment buildings, and sleeping areas in hospitals, hotels etc.

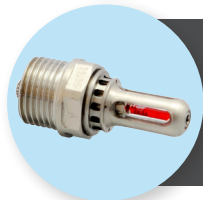
Type of nozzle: Pendent
Max coverage area: 16m²
Water pressure: 5.2 bar
K-factor: 14



PreV4sw

For residential and domestic applications including homes, care institutions, apartment buildings, and sleeping areas in hospitals, hotels etc.

Type of nozzle: Sidewall
Max coverage area: 16m²
Water pressure: 8bar
K-factor: 12.4



PreV5exp

For light and ordinary hazard applications, including offices, schools, retail and general public space areas in hospitals, hotels, care home institutions, etc.

Type of nozzle: Pendent
Max coverage area: 16m²
Water pressure: 2.4 bar
K-factor: 30



PreV5exp20

For residential and domestic applications including homes, care institutions, apartment buildings, and sleeping areas in hospitals, hotels etc.

Type of nozzle: Pendent
Max coverage area: 20,25m²
Water pressure: 2.2 bar
K-factor: 29



PUMP-SETS AND PIPING SYSTEMS

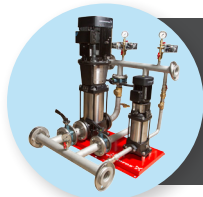
Our pump-sets are developed in partnership with Grundfos, which produces and delivers pump-sets in accordance with current standards.

We offer complete approved piping systems to our low pressure water mist systems. Most commonly used is PrevPex Pipe-in-Pipe, Pressfitting systems in stainless steel and RedPipe in PP-R - all of course corrosion-free systems.



Pump-Set for residential purposes

Our CM pump-sets are delivered in accordance with current standards.



Pump-Set for ordinary hazard class (OH)

Our CR pump-sets are delivered in accordance with current standards.



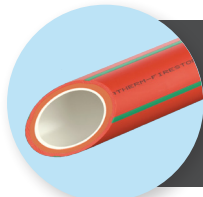
PrevPex

PrevPex is a leakage-proof and replaceable pipe-in-pipe system for use in Prevent Systems Low Pressure water mist systems, based on JRG Sanipex © system manufactured by Georg Fischer AG. Well suited to be embedded in concrete.



Stainless steel

Pressfitting piping system in stainless steel 316L quality, VdS certified.



Redpipe

Pipe system in fiberglass PP-R is corrosion-free, VdS and LPCB certified.

Please refer to the respective data sheets and Prevent Systems Design, Installation, Operation & Maintenance (DIOM) manual for detailed information on components.

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**PLEASE TAKE YOUR
FIRE SAFETY SERIOUSLY!
DON'T WAIT!
CONTACT US TODAY**

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