



FIXED EXTINGUISHING SYSTEM

with WATER MIST  
EXTINGUISHING AGENT

# ELECTRIC PUMPSETS

FIRE  
PROTECTION

# CUTTING-EDGE EXTINGUISHING



SIEX WF-PE technology is the result of an extensive study into the benefits of water as an extinguishing agent, conveniently used with systems that enhance its properties, delivering maximum firefighting efficiency while protecting people and even the most delicate property.

SIEX offers specific solutions for each hazard and each type of application. It can be designed for both total flooding and local application, or as a protection for an entire building or facility.

It is a step forward compared to traditional sprinklers. Thanks to its optimization, it reduces the damage caused by fire and smoke, without calling for large amounts of water, which has been shown to be equally damaging:

- Suitable for a greater number of applications, including special applications.
- Harmless to people
- Environmentally friendly and clean, with high availability and minimum consumption.
- It scrubs dust and particles from the atmosphere, preventing damage to equipment.
- Rapid return to normal and reduced downtime.



SISTEMA FIJO DE EXTINCIÓN

con AGUA NEBLINOSA  
como agente

It ensures coverage of hazards previously protected by sprinklers, but more efficiently and with less water. It can also be installed in other hazards with more special features such as escalators, electrical transformers, etc.

HIGH-SPEED DISCHARGE REACHES INTO THE SEAT OF THE FIRE MORE EFFECTIVELY. MOREOVER, SINCE THE SUBSTANCE CAN BE SPRAYED IN SUCH SMALL PARTICLES, THE ENVIRONMENT IS COOLED SIGNIFICANTLY WITHOUT DAMAGING ANY EQUIPMENT.





A photograph of a hallway with a wooden ceiling, warm lighting, and a potted plant in the foreground. The hallway is long and narrow, with a wooden ceiling and walls. The floor is made of large, light-colored tiles. On the right side, there are several wall-mounted lamps with white shades and a potted plant in a large, dark, woven basket. The lighting is warm and creates a cozy atmosphere. The hallway leads to a brighter area at the end.

## PRINCIPLES OF THE EXTINGUISHING AGENT

The key principle of fire suppression with water mist is **COOLING**, drastically reducing the fire heat.

The smaller droplet size, compared to traditional equipment, results in a larger exchange surface, which enhances the absorption of heat energy and generates greater amounts of vapour, which results in an additional effect of **OXYGEN DISPLACEMENT**.

**RADIATION ATTENUATION** also takes place, as the spread of fire to other areas is limited and fire is prevented from spreading to intact combustible areas.

This mechanism itself is not an extinguishing element, but it is essential for preventing the fire from spreading.

# PURPOSE OF WATER MIST SYSTEMS

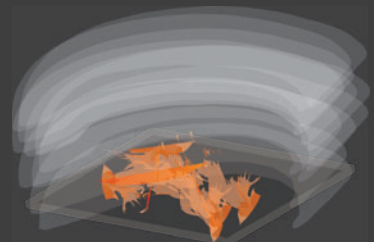
## FIRE CONTROL

Limiting the growth of the fire until manual extinguishing intervention.  
Extended discharge.



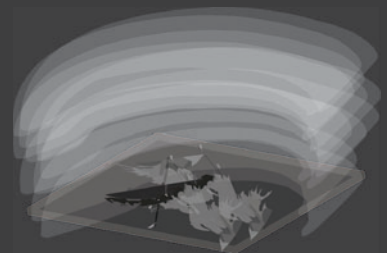
## FIRE SUPPRESSION

Sharp reduction in the rate of heat emitted by the fire during the discharge time.



## FIRE EXTINGUISHING

Complete extinguishing of the fire and danger of reignition with reduced discharges.



# COMPONENTS



## NOZZLES

Designed using the latest technology for creating and spraying micro droplets, our nozzles are a critical system component. Specifically designed for each hazard (previously analyzed in-depth and comprehensively), they are checked and certified according to various tests performed in Europe's most prestigious certification laboratories, according to the most demanding and stringent guidelines. They can be adapted to both total flooding and local application, and installation can involve either open or closed nozzles.

These spray nozzles are approved for a wide variety of hazards, designed specifically for each type of application. For this reason there are different models with different flow rates, coverage angles and installation heights, depending on what needs to be protected.

The nozzles ensure a proper and homogeneous distribution of the water mist discharge. This is achieved thanks to the effect of pressure and the break up of water into micro-droplets, ensuring optimal spraying for controlling, suppressing or extinguishing every type of fire, resulting from extensive and deep in-depth research and development.



## STORAGE TANKS

The pumping equipment uses tanks for water storage. They are ideal for protecting large areas, total flooding systems, local application or for the simultaneous protection of several separate hazards. The tanks are designed according to specific requirements. When water levels drop, it can be replenished, after filtering to avoid clogging and damage to system components due to solid particles.

## ELECTRIC PUMPS

SIEX-WF PE is our water mist system that uses an electric positive displacement, high pressure pump. It can be operated automatically or manually to start the discharge. The unit comprises one or more main pumps featuring the latest technology. In wet pipe systems, where water needs to stay in the pipe continuously (wet pipe system) a jockey pump is also used for pressurizing the pipe.

SIEX WATER MIST SYSTEMS WITH ELECTRIC PUMPS REQUIRE LESS MAINTENANCE, ENSURING THE RELIABILITY OF THE SYSTEM.

SIEX develops pumpsets with flow rates from 32 l/min to 480 l/min, ensuring the minimum pressure required for the most unfavourable nozzle, i.e., the farthest nozzle.

To control the water mist system, the unit has a control panel that allows configuring and monitoring all system operations.



# ACTIVATION METHOD



Depending on the application to be protected, SIEX designs its equipment for dry pipe, preaction or wet pipe systems.

DRY PIPE systems are those which are empty of water prior to detection and activation. They are installed with OPEN NOZZLES.



This mechanism can also be installed with CLOSED NOZZLES, in which case it becomes a PREACTION SYSTEM. The pipe is filled with water after fire detection, but the nozzle discharges only when the temperature increases (as a result of the fire) and the heat-sensitive bulb of the spray nozzle breaks.

This prevents false alarms and water mist is discharged only in the fire-affected area.



In WET PIPE SYSTEMS, the pipework is always charged with water pressurized at the pilot pressure, which is discharged when the heat-sensitive bulb breaks.



# TESTS, APPROVALS AND CERTIFICATES

**SIEX CONSTANTLY UNDERTAKES TO OBTAIN CERTIFICATIONS THAT MEET GROWING MARKET DEMANDS, OFFERING OUR CUSTOMERS THE MOST COMPETITIVE PRODUCTS AND ENSURING MAXIMUM EFFICIENCY.**

Our equipment has obtained the major international certificates issued by the most prestigious agencies in its field: VdS, FM\*, Lloyd's Register, DNV and Bureau Veritas. We have done so by testing all our products in internationally recognized laboratories such as VTT and SINTEF, thus objectively demonstrating the quality of our water mist systems.

They are approved according to the IMO MSC/Circ. 913 standard in marine systems, for use in local application and approval for use in public spaces, storage areas, cabins and corridors, as per IMO Resol. A.800 and IMO MSC.265 (84).

It is also approved as per the MSC/Circ. 1165 for machinery spaces.

It is also approved for land systems for use in public spaces (apartments, banks, schools, conference rooms, stations, churches, prisons, etc.), offices and cable tunnels according to standard and technical specification CEN TS 14972, and certified by VdS. The components have been approved by the VdS and CO MSC/ Cir. 1165 directives.

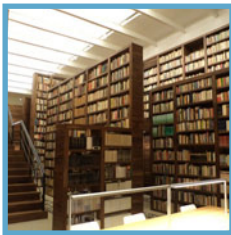
The SIEX water mist system has also been successfully tested for use in SINTEF-equipped tunnels.

Our company is also ISO 9001:2000 and ISO 14001:2004 certified for Quality and the Environment.



*IMO MSC/Circ. 1165*  
*IMO MSC.265(84)*  
*IMO MSC/Circ. 913*  
*IMO Resol. A.800*  
*CEN 14972*  
*VdS / FM\**  
*ISO 9001:2000*  
*ISO 14001:2004*  
(\*FM PENDING)

# APPLICATIONS FOR TOTAL FLOODING



*Archives  
and libraries*



*Computer  
Rooms*



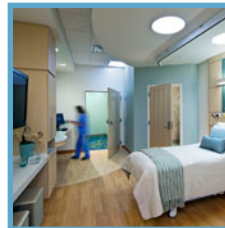
*Offices*



*Warehouses  
and factories*



*Shopping centres*



*Hospitals*



*Hotels  
and schools*



*Telecommunication  
systems*

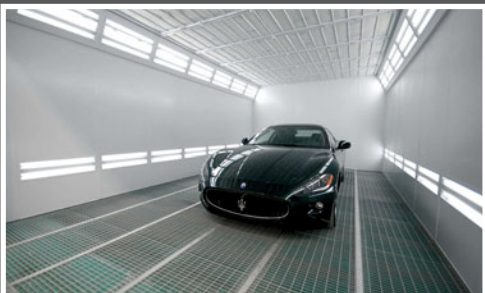
# FOR LOCAL APPLICATION



*Cable ducts*



*Transformers and turbines*



*Paint booths*



*Escalators*



*Kitchen hoods*



*Wind turbines*





# BENEFITS OF THE SYSTEM

The reason why water mist is becoming so widely used is the system's features, which make it the best solution for many different types of applications of varying sizes. On many other occasions, it is the only technically feasible solution due to its adaptability.

## ALSO STANDS OUT FROM SPRINKLERS:

### ENVIRONMENTAL COMMITMENT.

It uses up to ten times less water. Energy consumption is zero because water mist is discharged by means of pressurized inert gas.

### EASY TO INSTALL.

Thanks to the optimized use of water, smaller-diameter pipes are used. Installation is faster and more reliable because pipes can be bent.

## **HIGH SUPPRESSION AND EXTINGUISHING POWER.**

The specific surface area of water mist systems is much greater than traditional sprinkler systems. Due to the greater active surface area, the exchange of fire heat is also higher.

## **SPECIAL APPLICATIONS**

Water mist systems are flexible enough to be used for hazards with unique configurations such as: escalators, robotic parking garages, etc. beyond the protection scope of traditional systems.

## **LESS DAMAGE TO EQUIPMENT**

It reduces losses in materials exposed to the hazard, since the system involves no water soaking, unlike sprinklers, and it drags down smoke produced by the fire.

## **LOCAL APPLICATIONS**

The design of our nozzles allows water mist discharge to focus on a specific hazard, achieving optimum extinguishing efficiency at a lower cost compared to other total flooding systems.

## **SYSTEM APPEARANCE**

In systems where piping is visible, the small and stainless steel pipe used has no adverse impact on the appearance of the area.

Fewer nozzles are required to cover the same hazards.

## **HARMLESS TO HUMANS**

It is specially designed for occupied areas. Although the mist produced after discharge is intense, people can still breathe normally and evacuate the enclosure safely.

## **SIEX**

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SIEX reserves the right to make any change in both the capabilities and features of its equipment.