Autonomous Fire Suppression

Exterior Fire Protection for Tall Buildings
The Challenges

Time versus Fire

All fires start small but can quickly grow into large fires. Thus, early detection and rapid suppression is critical to prevent fires from developing into catastrophic events.

Response Time
(Time taken to detect + Time taken to start suppression)

Reach & Accessibility

Fires high up on building exteriors can be well out of the reach of firefighters, and even fires on lower levels can be very difficult to reach, particularly on complex structural designs and podium-type buildings. Maximizing firefighting capabilities in buildings therefore requires not only a rapid detection system, but also a system that is installed within the building for instant fire fighting around the clock.
The Future of Firefighting

The AFS Autonomous Fire Suppression System is a fully automatic, standalone fire detection and suppression system designed to deliver rapid fire protection for the external facade of your building.

The AFS System utilizes existing building fire protection infrastructure which minimizes the need for additional water supplies, pipework and/or pumps. The design of the system is based on international design standards.

The system can be integrated with additional components to protect the wall cavity between the external cladding and the inner wall.

The Components

- 2 x Array IR Flame Detectors
  - Installed outside of the building
- Robotic Monitor and Extension Boom *
  - Concealed in the building
- Deluge Valve with Remote Resetting Trim
  - To open and close the water supply to the monitor
- AFS PLC & Software *
  - Autonomously controls and positions the system
- Graphical User Interface & Web Service *
  - Allows control from PCs and smartphones (optional)

* Licensed by Unifire AB
Seamless Operation

Fully automated fire detection and suppression system utilizing robotic monitors to provide around the clock fire protection for your building.

Detect
Within seconds, autonomously detects up to four fires, dynamically locating the fires in three dimensions.

Aim & Suppress
Directs a high volume of water onto the flame, with system recalculating position of flame 10 times per second.

Remote Reset & Standby
Controls the robotic monitor without any human intervention and returns to standby mode when flames are no longer detected.
Numerous Applications

In addition to helping to protect tall building exteriors and complex structures, the system is also suitable for other applications that require short response times and autonomous suppression.

Applications such as stadiums, airport terminals, jetties, ferry terminals, atriums, chemical plants, large indoor and underground spaces may also benefit from the AFS System.
Fire spread within a building can be greatly amplified if a cavity exists between the external facade and the inner wall. The fire within the cavity can potentially spread more quickly on the inside than what can be seen on the outside of the building.

"Chimney Effect" of Exterior Cladding

The Cavity Fire Protection System can be integrated with the SPRAYSAFE AFS System to suppress fires within the cavities. In case of a fire, the cavity protection spray nozzles will be activated to prevent spread of the fire.

Small diameter piping with pre-installed nozzles, allows for installation from inside of the building and can be readily concealed within existing sub-ceiling and wall spaces. Separate detectors will be installed within the cavity to ensure timely activation of the system.

Depending on the design criteria and the selected sequence of operation, the Cavity Fire Protection System can be operated independently from the AFS System.

24 / 7 / 365

hours days a week days a year
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