

## MEETING TODAY'S FIRE SAFETY CHALLENGES IN CUSTODIAL FACILITIES

Custodial facilities around the world are faced with similar challenges in managing fire safety, with deliberately started fires, staffing shortages, smoke spread and attempts to tamper with equipment amongst the problems they face.

To address these challenges, Hydramist developed a range of water mist fire protection solutions specifically for the custodial sector.

### How water mist fire protection works

Hydramist fire protection systems are the 21st century evolution of sprinkler systems. They use compact, high pressure water mist pumps to power water to water mist nozzles. The nozzles are selected based on the specific risk to be protected. When the pump is activated, the nozzles emit a fine mist of water that acts quickly and directly at the point of fire. The small droplet size creates a large surface area that rapidly cools the fire and surrounding surfaces. Water Mist penetrates deep into the fire and reaches areas that sprinklers find difficult to access, such as under furniture or hidden behind partitions. The fire is rapidly suppressed, and the cooling properties prevent reignition. Hydramist water mist systems are also proven to rapidly reduce the spread of smoke and toxic gases.

### The story of how water mist fire protection was developed for custodial facilities

Water mist fire protection is now installed in over 90% of prisons in the UK. Police custody suites and secure mental health facilities are following suit, as are water mist fire protection installations around the world, as policy makers, facilities managers and other decision makers become aware of the life safety and operational benefits.

20 years ago, at the request of the UK Ministry of Justice, the Building Research Establishment conducted extensive research and testing on fire protection solutions. Deliberately started fires and the dangers of smoke inhalation were among the key life safety concerns. Traditional fire hose reels and sprinklers had been found to be insufficient to meet these fire safety challenges. The research findings confirmed that high-pressure water mist provides the fastest fire and heat suppression, along with the unique ability to rapidly reduce smoke spread.

Working closely with the UK Ministry of Justice, fire engineering equipment manufacturer Watermist Ltd developed a comprehensive range of high-pressure water mist products specifically to meet the needs of the custodial sector, improve life safety and aid prison management.

Because of these life-saving capabilities, high pressure water mist is the Ministry of Justice recommended solution for fire suppression in the custodial sector.

Watermist, with its Hydramist products, is the sole company to have developed a complete line of tested and approved water mist fire protection products exclusively for the custodial sector.

### Testing, approvals and key life safety benefits

Hydramist water mist fire protection solutions for custodial facilities have undergone independent testing by the UK Ministry of Justice, the Building Research Establishment and the Commonwealth Scientific & Industrial Research Organisation CSIRO.



➤ Mobile8 water mist fire protection unit - fast deployment for custody suites

The Hydramist range of manually operated and automatic fire protection solutions are tested and proven to provide a number of important life safety benefits. Key life safety feature of Hydramist products include:

- **Fastest Fire Protection:** Suppresses fire and heat within minutes.
- **Effective Smoke Reduction:** The only fire solution that combats smoke and maintains a breathable environment.
- **Anti-Ligature Nozzles Developed for the Custodial Sector.**
- **Enhanced Prison Staff Security:** Eliminates the need to enter cells to fight fires.
- **Robust and Tamperproof Design:** Resistant to challenging prison conditions.
- **Safe to use on hydrocarbon and electrical fires.**

### **Police custody suites, courthouses, airport custody suites and detention facilities**

Hydramist has developed water mist fire protection systems for all sizes of custodial facilities. Smaller custody suites, such as police cells, airport holding centres and courthouses, can gain the benefits of water mist fire protection instantly, with fast to install manually operated solutions.

One example of these systems is the Mobile8, which is ideal for fast deployment and ease of use. This all-in-one fire unit contains a pump, water tank, hose reel, lance and water mist nozzle. No installation is necessary. Staff only need to press the start button, insert the lance in the cell door and squeeze the trigger to rapidly suppress the fire without entering the cell.

Another fast and easy solution for smaller custodial facilities is the Hydramist Modular Hose Reel. This high pressure water mist hose reel is designed to easily fit into traditional hose reel cabinets.

The Modular Hose Reel includes a pump, motor, hose reel, lance and water mist nozzle. All that is needed are electrical and water supplies.

### **Automatic, fully-integrated solutions for larger prisons**

For larger correctional facilities including prisons, Hydramist provides automatic in-cell protection powered by centralised water mist pumps. Anti-ligature water mist nozzles are located on the ceiling or wall of the cells. These systems have been used to protect some of the largest prison facilities in the UK.

### **Operational benefits for custodial staff and facilities managers:**

Hydramist water mist fire protection also offers practical and operational benefits for staff and facilities managers. The systems use approximately 80 percent less water than traditional sprinklers, which prevents cell flooding, eliminates the need for evacuation and only requires minimum clean-up after operation.

Installation is fast and easy, making it less disruptive in the case of retrofitting projects. The systems are designed to be easily maintained and Hydramist has an international network of fully trained installation and maintenance partners to ensure efficiency and longevity.



➤ **Water mist Modular Hose Reel Unit**

### **CPD webinars on water mist fire protection for custodial facilities**

Contact Hydramist for an explanatory webinar, approved by the Institution of Fire Engineers (IFE), on water mist fire protection for custodial facilities. The presentation will explore the operational, design, environmental and life safety benefits, including water mist's unique ability to reduce smoke spread. The presentation will then look at how different types of water mist fire protection systems have been put into place in different types of facilities – from small police stations to the largest, most modern prisons. Real life installations from around the world will be shared.

### **For more information**

Contact [info@hydramist.co.uk](mailto:info@hydramist.co.uk)

Visit [www.watermist.com/sectors/custodial/](http://www.watermist.com/sectors/custodial/)