

Water Mist for Data Centres



“One typical water mist application is the protection of data centres”, explains Bettina McDowell, general manager at the International Water Mist Association (IWMA). IWMA member Marioff can report about two projects in the Netherlands.

The facility in Groningen is a multi-tenant data centre with customers across industries. One significant client is Overheids Datacenter (ODC) Noord, one of the four government data centres in the Netherlands, underscoring the need for uninterrupted operation.

Business continuity at NorthC Groningen, as for all data centres, is paramount. Fire suppression in the facility is particularly challenging because of the need for the high airflow and high-power density. NorthC Groningen ultimately chose Marioff HI-FOG as the fire suppression solution to protect their critical infrastructure through Marioff’s partner FireX with a complete suppression and detection system.

The facility in Eindhoven is the first carbon-negative data centre in the world that also holds a Tier 4 certification, the highest guarantee of reliability possible, which means failure of their digital systems must be avoided at all costs. All systems and installations at the 1,200 square-metre facility must be redundant and separate.

This meant thinking through the fire protection plan from the ground up, while simultaneously meeting the fire suppression challenges of high airflow and power density presented by data centres. Finally, Eindhoven’s commitment to cradle-to-cradle sustainability principles meant accounting for water usage.

The fire safety concept for the facility was developed in collaboration with RHDHV and FireX. For Eindhoven, detection was made highly sensitive, with automatic and localized discharge to protect the data centre’s business continuity — a tailor-made fire protection solution for protecting the most critical data.

HI-FOG discharges high-pressure water mist that effectively suppresses, controls and cools fires. It uses less water than traditional sprinkler systems, minimizing water damage in the event of fire and reduces the possibility of a false discharge when compared to gas suppression.

Further applications will be presented at the 22nd International Water Mist Conference in Copenhagen, Denmark, on 11th and 12th October 2023. The call for papers has been released, the abstract deadline is 15th May.