

Johnson
Controls



"I wish I could
protect my
Data Center with
an FM approved
System"



 AquaMist

"I wish I could protect my Data Center with a system specifically designed to mitigate **ventilation**, and take fire-propagating cables into consideration"

DATA CENTER MANAGER
IN A MULTINATIONAL I.T. COMPANY



"I wish I could protect my Data Center with a pre-action system that **delivers minimal amounts of water**"

DATA CENTER MANAGER



"I wish my policyholders could have a **reliable Low Pressure FM Approved Water Mist Solution** for their Data Center"

INSURANCE COMPANY MANAGER





Wish granted!

FM Approved Water Mist System, designed for Data Centers

Until now water-based fire protection systems have not taken into account the modern operating conditions of Data Centers. Now, with the AquaMist ULF solution, these special factors are covered.

- **FM Approved** fire protection solution
- **Continuous protection** for ventilated environments
- Protection against **fire-propagating** cable fires
- Suitable for **below-floor installation and concealed spaces**
- **Environmentally sustainable solution:** uses up to 80% less water than pre-action sprinkler system designed to protect the same space
- A proven **pre-action system** to minimize risks of damage due to accidental discharge
- Area of operation based on fixed number of nozzles allowing for **pre-calculation**
- This solution **can be combined with FM approved AquaMist solutions** for other areas within the building including: generator rooms, transformer rooms, offices, meet-me rooms and circulation spaces

For more information visit www.tycoaquamist.com

 AquaMist

Advantages of the AquaMist ULF Solution for Data Centers

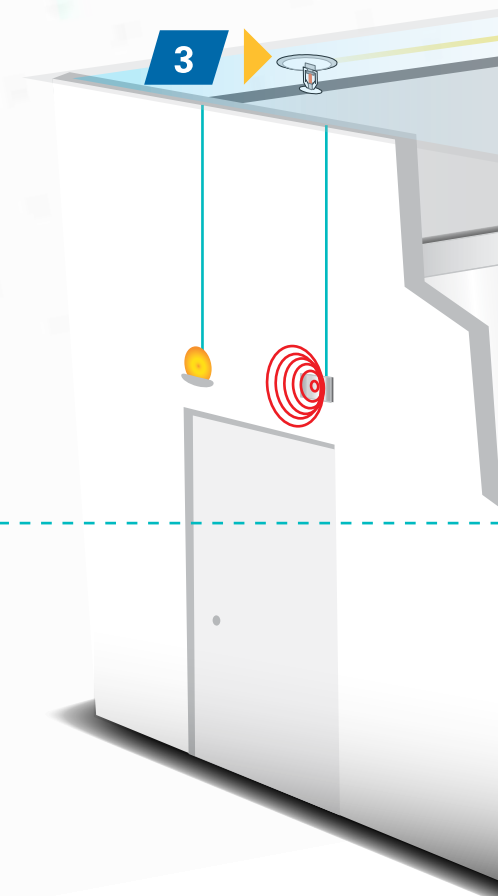
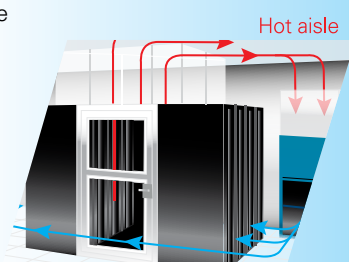
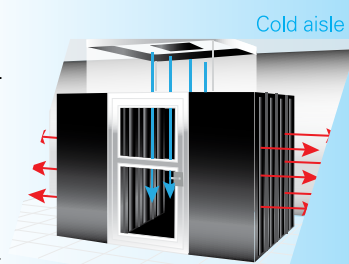
Ventilation is no longer a problem

Data Centers are ventilated to maintain an optimum operating temperature. This creates one of the greatest challenges for fire systems to overcome. Smoke and heat are transported by the ventilation system, delaying operation and efficient system performance.

Shutting down ventilation is not viable due to the impact this will have on the operational efficiency of the Data Center.

The AquaMist ULF Data Center solution has been tested and approved to operate in ventilated conditions, thus allowing operators total freedom in designing ventilation arrangements.

AquaMist ULF guarantees rapid detection and discharge in a range of ventilated conditions, no longer do operators have to choose between fire suppression and cooling.



Protecting your Data Center when it contains fire-propagating cables

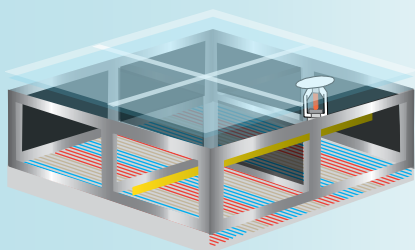
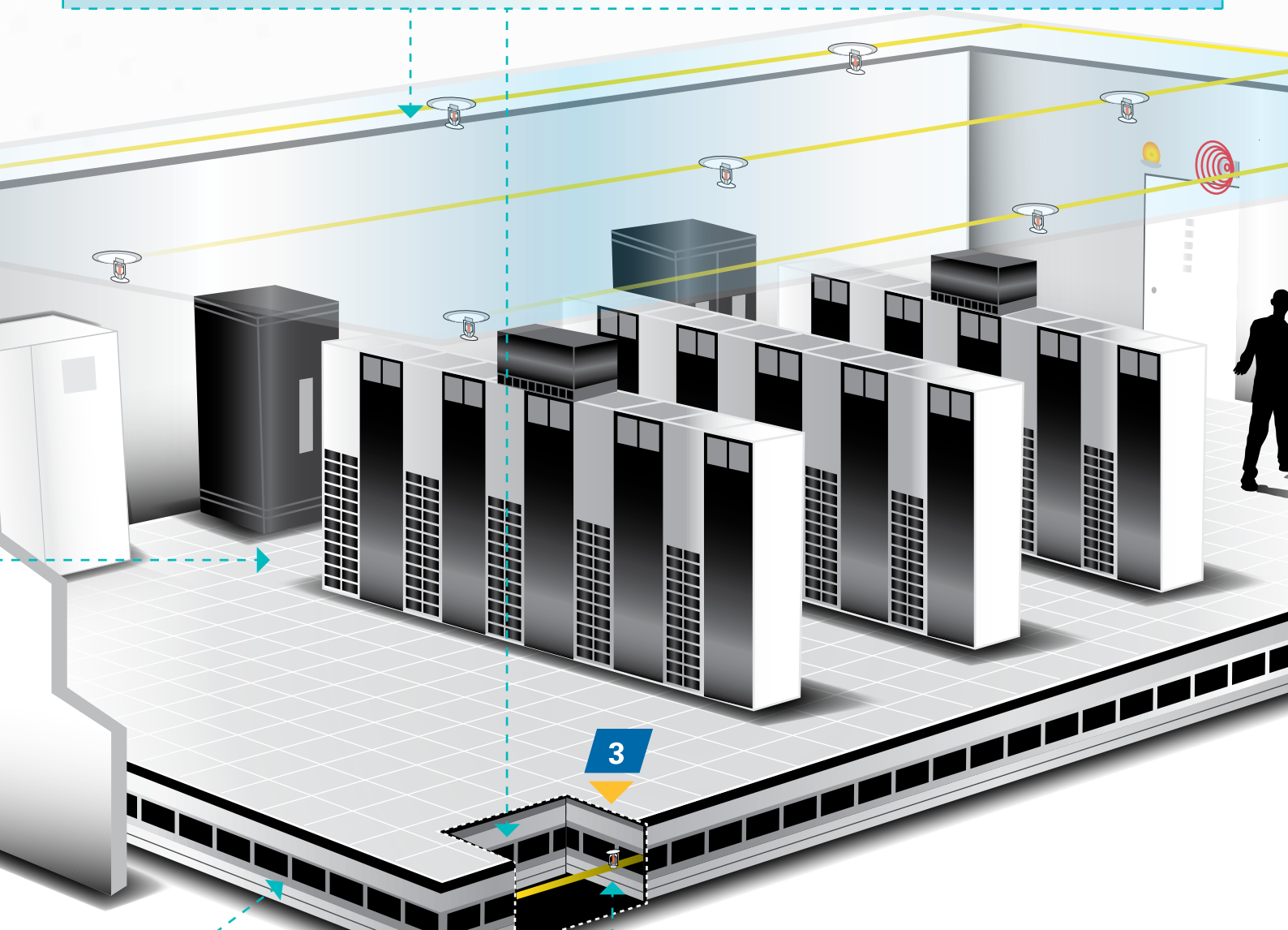
A Data Center typically contains a high density of cables in trays located above servers and below the raised floor. Previously, fire protection systems only provided protection for non fire-propagating cables. AquaMist ULF solution is **approved by FM** to further protect against the additional hazard inherent in fire-propagating cables, thus allowing greater flexibility in cable selection.



An FM Approved solution

AquaMist ULF solution for Data Centers has been full scale fire **tested by FM in multiple scenarios**, including areas above, below raised floor, hot aisle and concealed spaces. We offers AM29 and AM30 nozzles with two activation temperatures 135°F (57°C) and 155°F (68°C) providing more flexibility in design.

The architecture of every Data Center is unique. If you believe your installation is of a complexity that may require a bespoke solution, please contact us and we will be happy to provide an expert appraisal or survey that will help you decide on the right solution for your business needs and requirements.



Suitable for below-floor and concealed spaces

AquaMist ULF offers **design flexibility for different layouts** and has been extensively tested to provide protection below floors, in cable voids or wherever cable trays are located.

Continuous protection

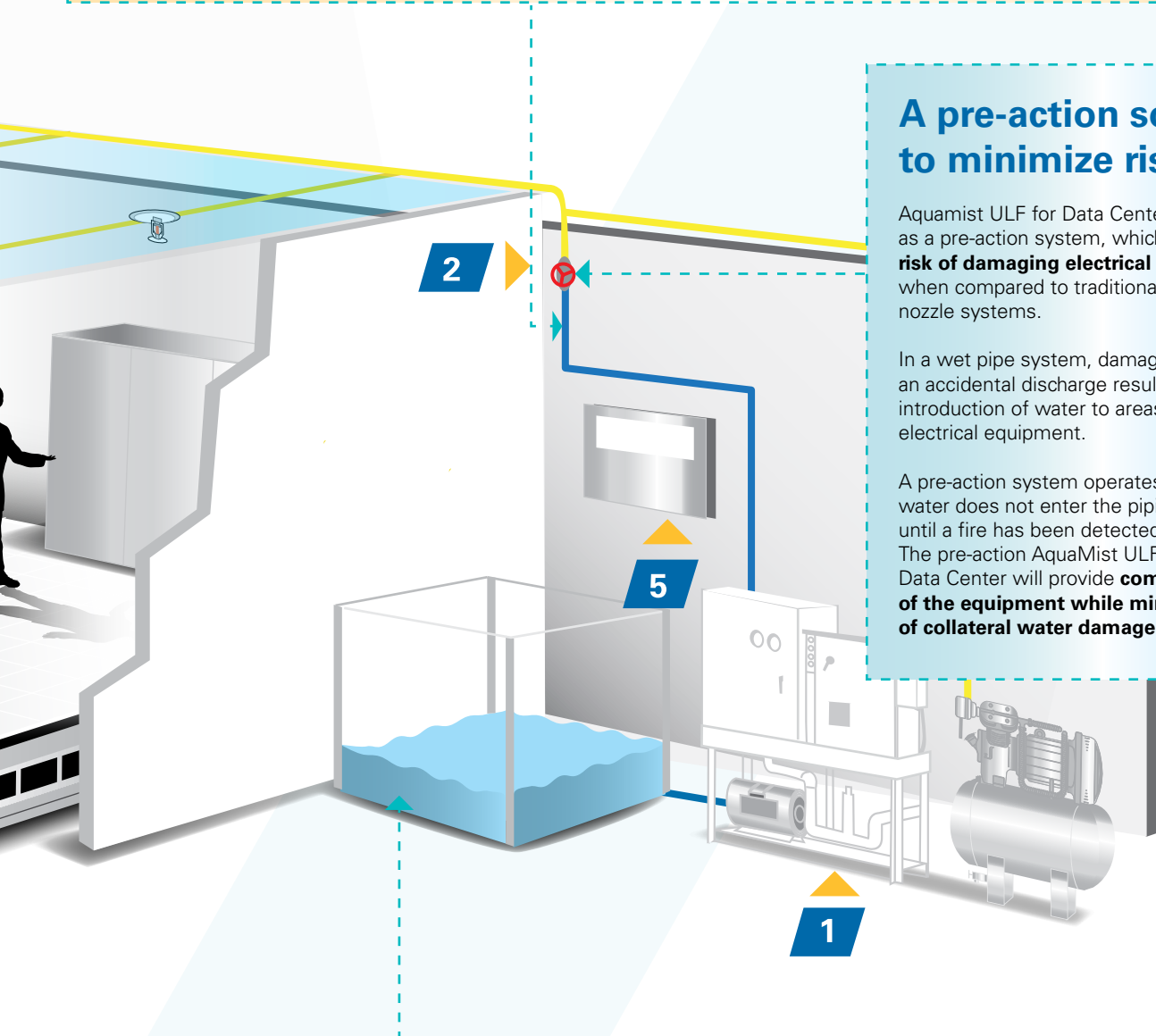
In general, water mist systems do not require treated water or additives, so the system **can be supplied by potable water or water storage tanks.**

A pre-action solution to minimize risks

Aquamist ULF for Data Centers is designed as a pre-action system, which **reduces the risk of damaging electrical equipment** when compared to traditional wet pipe nozzle systems.

In a wet pipe system, damage to nozzles or an accidental discharge results in immediate introduction of water to areas containing electrical equipment.

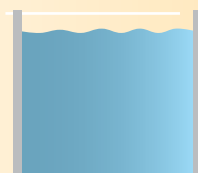
A pre-action system operates differently: water does not enter the piping network until a fire has been detected and verified. The pre-action AquaMist ULF solution for Data Center will provide **complete protection of the equipment while minimizing the risk of collateral water damage.**



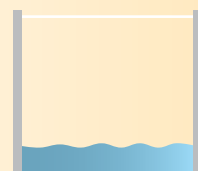
Environmentally conscious solution: save space and up to 80% of water

Is floor and ceiling space limited in your Data Center? Would you like to decrease water demand and decrease pipe sizes in your design? AquaMist ULF solution for Data Centers is the answer. The Water Mist alternative to traditional pre-action systems **can reduce the demand by up to 80% making it possible to reduce supply piping and water storage tanks.**

FIRE PROTECTION WATER TANK FOR DATA CENTER



Without AquaMist



With AquaMist

Components of the AquaMist ULF Solution for Data Centers



1

Pump Skid Unit, simplifies your system installation

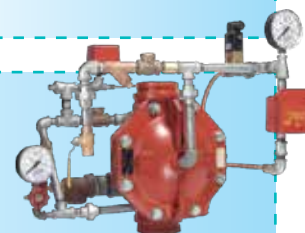
- Pre-assembled, self-contained, control center for the AquaMist ULF system.
- Pre-wired and pre-piped for easy installation and reduced time and labour
- Available in a variety of configurations with water flow rates from 50 gpm (189 lpm) to 150 gpm (568 lpm).

**ref: MCC FM Approved*

2

Pre-action System with DV-5 Deluge Valve Single Interlock

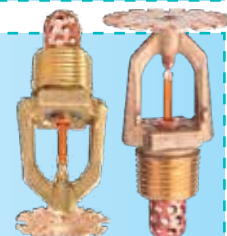
- Pre-action System with Electric Actuation utilizes automatic AquaMist nozzles and a supplemental detection system. Actuation of the detection system automatically operates (releases) the DV-5 Deluge Valve, allowing water to flow into the Water Mist pipe network to be discharged from any Water Mist nozzle that may be open.
- This is a suitable system to protect areas where there is a risk from water damage. Pre-action systems can avoid accidental water damage because the system is only filled with water in the event of fire detection and only discharges water when the nozzle is activated by heat.
- The one-piece, diaphragm-style design of the DV-5 is one of the most respected and hassle-free fire protection valves in the industry.



3

Discharge nozzles which are located within the protected area: AM29 and AM30

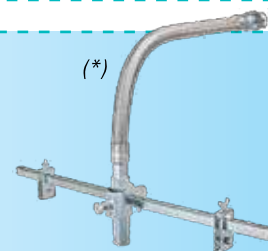
- The AquaMist ULF nozzles Type ULF AM29 and AM30 are closed (automatic) nozzles intended for use with engineered, Water Mist systems.
- AM29 and AM30 are Low Pressure nozzles that utilize a single fluid jet impacting on a diffuser to produce a spray having a range of water droplet sizes suitable for the control of cable fires.



4

Flexible Hose Connection and G-Press Piping

- The Fastflex Flexible Hose is a unique drop assembly comprised of a branch line adapter nipple, stainless steel flexible hose, reducer and a lightweight ceiling bracket.
- The Flexible Hose can be installed in false ceilings without cutting pipes associated with installing a drop, armover, and elbows.
- Once the ceiling grid is in position, the hoses can be reshaped to suit the final nozzle location.
- A Flexible Hose is installed quickly without large and expensive tools.
- This allows complete flexibility, particularly important where cabinet locations regularly change.
- Stainless Steel G-Press system FM Approved.



**ref: Flexible hose design complying with FM Design Criteria*

5

FM Approved detection equipment

- Johnson Controls offers a full range of FM Approved AquaMist and detection solutions for data centers. Contact us to identify the best option for your data center.





Global strength. Local expertise. **At your service.**

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