
Gemini®
Eliminates Accidental Release
Effective Risk Management
Environmentally Friendly
Zero Maintenance
Reliable Protection
No Additional Fire Equipment Required
Easy Installation to Existing System
SAS 6Gb
300GB 15k
intel
Xeon
inside

Placing water-based fire retardants in areas with electronics and other sensitive goods was a major worry… until now.

Gemini, the pre-action sprinkler head that eliminates accidental release. It acts as a 'double-knock' system and will only release water when both heads have been activated.

Accidental Release

Unintentional release of a sprinkler system (by accidental damage of the sprinkler, for example) is very unlikely but unfortunately cannot be ignored.

This is one of the reasons why, until now, sprinkler systems have seldom been used in particularly sensitive areas where an accidental release would cause severe damage. In the past, if a system was used in these areas it was normally a detector controlled pre-action system which are costly to install and onerous to maintain. They also require additional fire detection equipment, a separate alarm valve station, more pipe line and a dedicated pressurised air supply. There is also the potential disadvantage of having a delay in operation for a pre-action system and a limited amount of extinguishing agent to be available in the case of gaseous systems.

The Gemini System

If however a water-sensitive area within a building is to be protected with an existing or planned sprinkler system, the use of pre-action sprinklers represents a simple alternative. These special sprinklers can be simply connected to the existing or planned sprinkler pipework, providing double safety against the unwanted release of the sprinkler system, while offering the same fire protection.

Gemini Sprinkler Head

With this system, the life safety quick response heads operate in such a way that the first head to operate acts as a detector and will signal an alarm condition, the second integral head is now engineered to act as a normal sprinkler head and discharge water on activation of the bulb. The triumph of this engineering is that each Gemini device is a mini pre-action sprinkler system and that the sprinkler heads are dual purpose detectors combined. When both heads are activated as a result of an actual fire condition, the left sprinkler head then allows water to dischargem, which minimises any delay, and provides the normal benefits associated with reliable wet fire suppression systems and life safety quick response low RTI's.

In the case of one head only being activated by accident, no water is released. The risk of water leakage and related damage through accidental damage to a sprinkler head is therefore dramatically reduced.

- Additional safeguard when protecting water-sensitive equipment
- No additional fire alarm equipment is needed such as a separate alarm valve station, more pipe line or a dedicated pressurised air supply
- Simple retrofitting - integration into existing sprinkler systems with wet or dry pipework
- Discreet integration into a ceiling - easily concealed
- LPCB and VdS approval
- Compact monitoring panel
- Simple wiring - easy electrical installation

Trusted System

Gemini is already in use in buildings worldwide for applications such as:

- IT and server rooms
- Electronic control or monitoring set ups
- Telecommunications facilities
- Sub stations
- Archives
- Pharmaceutical plants
- Art galleries
- Museums
- Any areas with business critical water sensitive materials or goods

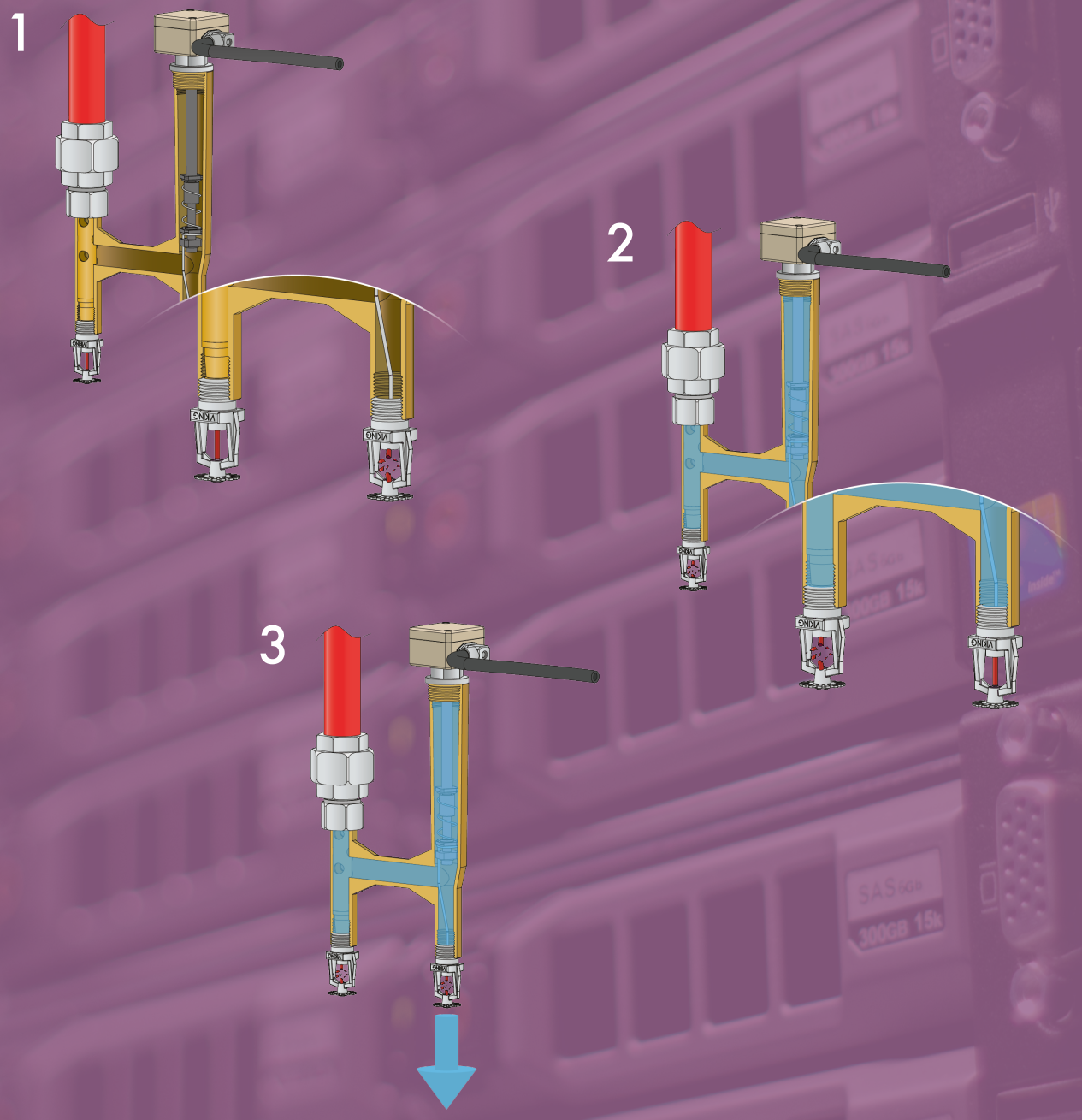
How it Works

1 On release of the right sprinkler head only, the spring loaded float mechanism is no longer supported by the glass bulb and therefore will drop down. This operates a switch contact and an alarm signal will be generated.

2 On release of the left sprinkler head only, the sealing cone is no longer supported by the glass bulb and will therefore drop down. This allows water to enter the Gemini unit whilst simultaneously sealing off the left sprinkler head from the water. The water will fill up the right hand side of the unit which will raise the float mechanism and operate a switch contact. An alarm signal will be generated.

In both cases, when a single sprinkler head is activated no water is discharged. The alarm signal generated is transmitted and indicated on the Gemini sprinkler monitoring system DSZ 3000 or by a connected fire detection control panel. The fault signal can also be transmitted to any remote or external location.

3 On release of both sprinkler heads on the Gemini unit, the water is discharged through the right head only. Since water is now being discharged, the Gemini alarm should now be accompanied by other code-compliant sprinkler alarms such as flow-switches, pressure-switches and other main sprinkler operation alarms.



Approvals

The Gemini sprinkler head is LPCB and VdS approved. Gemini complies with the recent LPCB code standard requirement (TB206) to sprinkler protect all areas of commercial buildings over 30m tall.

Installation & Monitoring

The Gemini pre-action sprinkler head can be installed in sprinkler systems with wet and dry pipework in exactly the same way as conventional sprinklers.

The DSZ 3000, a small specially designed compact control panel is used for the monitoring of all Gemini heads in a particular system. The panel will receive a signal from any of the Gemini units if one of the sprinkler heads has been activated. Accidental damage is thus indicated and countermeasures can be taken to replace the damaged head.

Retro-ftting

As pre-action sprinklers can be connected to the pipework of an existing sprinkler system, retrofits and changes of use in existing buildings with sprinkler protection are also very easily achieved with them.

System Components

DS1 Gemini Sprinkler Head

Pre-action sprinklers consist of a cast housing with two separately arranged sprinklers. The pre-action sprinkler is fitted with a monitoring switch. This allows the relay of signals to a monitoring panel if one of the two sprinklers is activated. The head is mechanically installed using an adaptor and union coupling.

DSZ 3000 Monitoring Panel

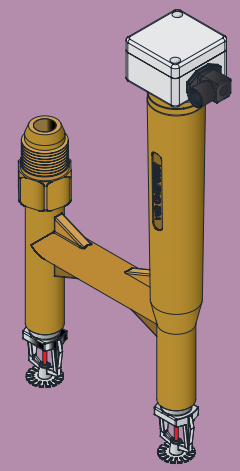
The DSZ 3000 monitoring panel can monitor one or, in parallel, even several pre-action sprinklers and show their operating status.

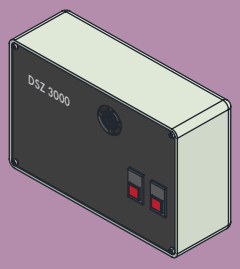
Interconnect Cable

Interconnect cables are used to connect several Gemini sprinkler head units together in parallel.

End of Line Cable

The end-of-line cable is used to connect the monitoring panel to the system of Gemini sprinkler heads.





ProjectFire
Innovators in fire protection

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