



DATA CENTRE FIRE SUPPRESSION

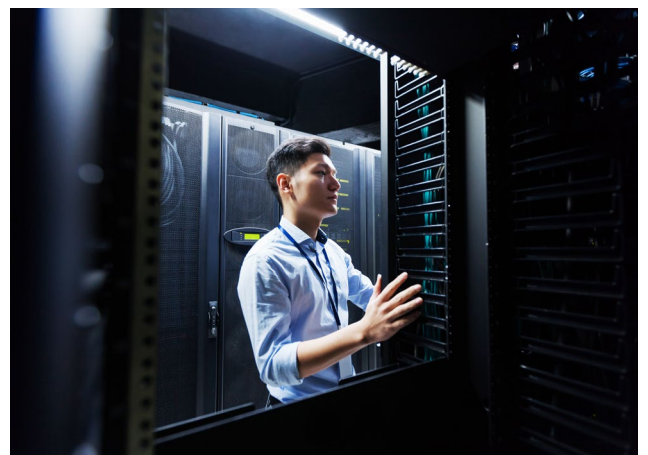
1. THE IMPORTANCE OF THE ASSET

Data centres are no longer just IT infrastructure. They are critical infrastructure. Businesses, government, banking, communications, cloud services, AI and everyday digital services increasingly rely on data centres operating continuously.

Behind every rack is more than physical equipment. It can represent critical data, customer services, business systems and infrastructure relied upon by thousands or potentially millions of users.

The value of the asset therefore isn't simply the replacement cost of the servers and equipment. The real value is what depends on that infrastructure remaining operational.

→ This is what makes fire protection within these environments fundamentally an asset protection and business continuity consideration.



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2. HOW FIRES START IN DATA CENTRES

Despite controlled environments and high levels of monitoring, data centres contain many of the ingredients required for a significant fire event.

Potential ignition and fire risks include:

- Electrical faults, arcing and short circuits
- Overheating electrical components
- UPS systems and associated electrical equipment
- Battery energy storage and backup power systems
- Power distribution equipment, switchboards and cabling

- High electrical loads and concentrations of equipment
- Cooling or mechanical equipment failures
- Installation, maintenance or human-related incidents
- Combustible cabling and other materials allowing fire development beyond the initial point of ignition

→ The important message here isn't necessarily that data centres are highly likely to catch fire. It's that the consequence of even a relatively small fire can be disproportionately large.

3. WHAT DOES A DATA CENTRE FIRE ACTUALLY COST?

LIFE SAFETY Personnel, contractors, emergency responders and anyone working within or around the affected environment.

ASSET LOSS Servers, racks, electrical infrastructure, UPS equipment, networking equipment, cabling and other high-value infrastructure can be directly or indirectly affected.

DATA & SERVICE LOSS Depending on architecture, redundancy and backup arrangements, an incident can affect access to data, applications and critical services.

DOWNTIME Even when equipment hasn't been directly damaged by fire, shutdowns, power isolation, investigation, cleaning, testing and recommissioning can prevent systems returning immediately to service.

BUSINESS INTERRUPTION For the end user, the financial impact can extend far beyond replacement equipment. Lost productivity, unavailable services and interrupted operations can continue accumulating while the facility is offline.

CUSTOMER & CONTRACTUAL IMPACT Service interruptions can affect customers and potentially create SLA and contractual consequences.

REPUTATIONAL IMPACT For organisations trusted to maintain critical digital infrastructure, a significant outage can quickly become a customer and reputational issue.

RECOVERY COST Replacement equipment is only one component. Investigation, specialist cleaning, temporary infrastructure, labour, testing, recommissioning and recovery activities can all contribute to the total cost.

→ When specifying fire protection for a critical environment, the question shouldn't only be "Will it extinguish the fire?" It should also be "What happens to the asset and the business after it does?"



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4. THE SOLUTION – TOTAL FLOOD GASEOUS FIRE SUPPRESSION

Now we've earned the right to talk about the product.

Protect the asset. Control the fire. Minimise the consequence.

Total flood gaseous fire suppression systems are designed to discharge a calculated concentration of extinguishing agent throughout an enclosed risk, providing rapid suppression across the protected space.

For data centres and other critical electronic environments, gaseous suppression provides several important asset-protection advantages:

- Rapid response to a developing fire
- Three-dimensional protection throughout the protected enclosure
- No extinguishing-agent residue on sensitive equipment
- Reduced requirement for post-discharge clean-up compared with residue-producing agents
- Protection of high-value electrical and electronic assets
- Ability to protect concealed and difficult-to-access risks within the designed enclosure
- Engineered specifically around the volume, configuration and characteristics of the protected risk

5. DELTA FIRE'S ROLE

Specialist Protection Requires Specialist Engineering

A total flood system isn't simply cylinders, pipework and discharge nozzles.

Effective protection requires consideration of the complete risk — including the asset being protected, enclosure characteristics, detection and control, agent selection, design concentration, hydraulic calculations, room integrity, pressure relief, system interfaces, commissioning and ongoing maintenance.



GET IN TOUCH

For an informal chat about your best solution for tank fire prevention, contact Delta Fire today.

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