

Archives and Museums

Application



Challenge:

Fire protection is critical, but it should also be unobtrusive. Conventional chemical clean agent systems have limited piping networks requiring nearby storage of containers and are often unable to protect more than one space with a single bank of containers.

Solution:

ANSUL® SAPPHIRE® PLUS
Clean Agent Fire Suppression System

Application:

Archive Rooms and Museums contain irreplaceable records, artifacts and other high value assets requiring clean agent fire suppression.

Museums and Archives are key to documenting business processes and history. Cultural heritage is maintained through the documents and assets stored within these facilities. Thus, a reliable fire protection solution is required to help maximize operational uptime and safeguard valuable assets.

Johnson Controls understands the challenges of fitting fire suppression systems in archives and museums, and our solution is twofold: a time-proven clean agent delivered to the protected area using state-of-the-art SAPPHIRE PLUS suppression system technology.

SAPPHIRE clean agent systems contain 3M™ Novec™ 1230 fire protection fluid, an effective fire suppressant designed for special hazard, high value applications. This environment-friendly halocarbon liquid is a replacement for halon as an alternative to HFCs, HCFCs and PFCs. SAPPHIRE clean agent systems provide the right balance of fire suppression performance, end of use safety, and environmental sustainability. The agent is a clear, colorless, low odor, liquid that is super-pressurized with nitrogen and stored in high-pressure containers. Although it is stored as a liquid, it will turn to gas upon discharge making it an effective total flooding agent for archive and museum fire hazards. As a clean agent, it leaves no residue behind and will not affect sensitive high-value assets such as one-of-a-kind artwork, rare books and ancient artifacts.

Advanced SAPPHIRE PLUS system technology enables engineers to reduce storage container footprint, complexity and size of the pipe network. Its innovative electric actuator contains a built-in placement indicator eliminating the need for a secondary device. The system is approved for use with selector valves, allowing a single container bank to provide fire protection to multiple hazard areas. The technology also provides a storage pressure of 70 bar (1013 psi) enabling greater agent capacity in fewer containers. The increased storage pressure also facilitates extended pipe run capabilities.

Fire protection solution helps maximize operational uptime and safeguard valuable assets



The SAPPHIRE PLUS System is most effective when used with an AUTOPULSE Automatic Detection and Control System to release the clean agent rapidly. The detection system is used to either directly actuate a fire suppression system or to notify personnel that the system should be actuated by manual/pneumatic means.

The ANSUL® SAPPHIRE PLUS system is UL/ULC listed and carries FM and EN approvals. The system can be designed to meet the requirements of NFPA 2001, EN 15004 and ISO 14520 with components approved to provide top quality fire suppression.

In short, SAPPHIRE PLUS technology expands system flexibility to enable engineers to accommodate the fire suppression system in a less obtrusive way by addressing many of the concerns previously associated with halocarbon systems.