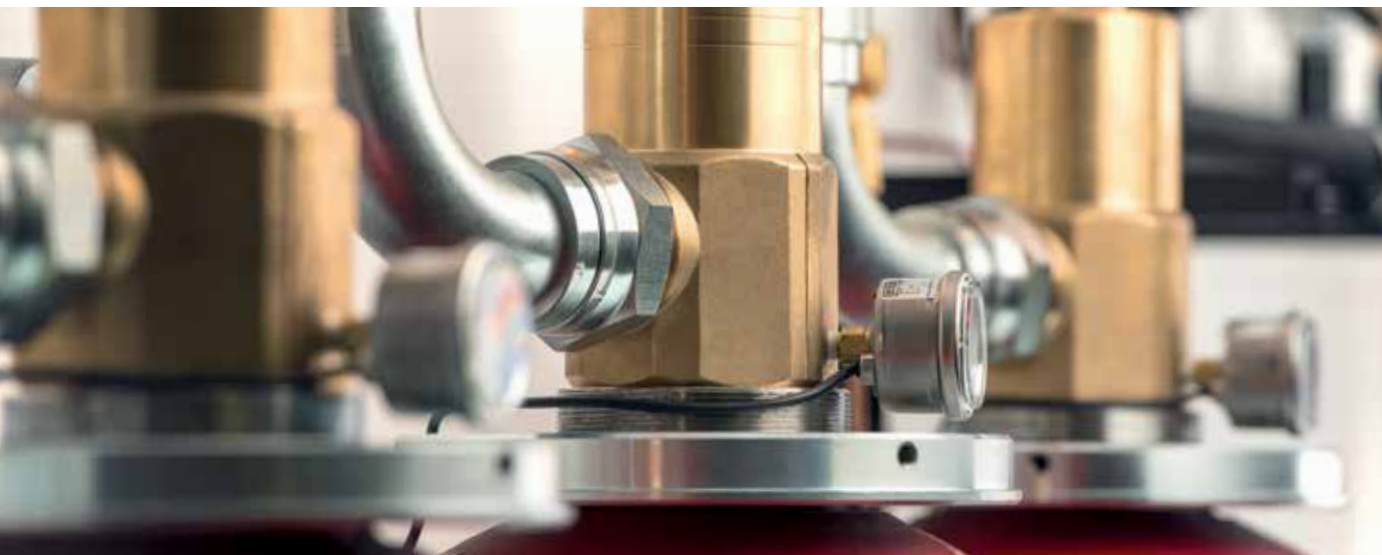


SAPPHIRE® PLUS



SAPPHIRE PLUS suppression systems

GEM SAPPHIRE® Fire Suppression Systems delivering 3M™ Novec™ 1230 Fire Protection Fluid is a safe, environmentally friendly clean agent that instantly vaporizes upon discharge, absorbing heat and providing total flooding of protected spaces.

70 Bar NOW Available!

SAPPHIRE Plus is a 70 bar system, which helps reduce the footprint, installation and service time by offering higher fill densities up to 1.4kg/L to reduce the number of containers. The increased pressure also permits the containers to be located much further from the protected space and increases the ability to introduce selector valves to protect multiple hazards from a single container bank. Additionally pipe sizes may be reduced increasing the economy and design flexibility.

The system benefits from new software, designed to maximise the benefits of the SAPPHIRE Plus system.

The SAPPHIRE system has a proven track record for protecting people, the environment and high value assets. Protect these assets with a SAPPHIRE clean agent system, custom engineered to quickly suppress fires without causing harm and where clean-up of other agents poses a problem.



SAPPHIRE Plus Gaseous
Fire Suppression Systems
Delivering 3M™ Novec™
1230 Fire Protection Fluid

- 70 Bar System
- Higher Fill Densities (up to 1.4 Kg/L)
- Reduced Footprint, Installation Cost and Service Time
- Extended Temperature Range -18°C to 65°C (UL/FM)
- Selector Valves
- Extended Pipe Runs
- New Design Software
- Environmentally Friendly
- Safe for People
- Fast Acting
- Optimised Pipe Sizes
- DOT/TPED Containers
- Dual Approved UL/FM & CE Pressure Gauge or Contacted Pressure Gauge
- Easy Halocarbon Retrofit
- In-Built Placement Switch Within Electrical Actuator

Choose a Revolutionary Fire Suppression System

SAPPHIRE Applications

- Data Centres
- Electrical Switching Rooms
- Machinery Spaces
- Medical Facilities
- Heritage Sites
- Air Traffic Control
- Oil and Gas Facilities

3M™ Novec™ 1230 Fire Protection Fluid provides a wide safety margin because it is used at concentrations of only 4.5 to 5.9% by volume which is well below the maximum 10% concentration for safe exposure. The agent has zero ozone depletion potential (ODP) and with an atmospheric lifetime of between three and five days and a global warming potential of 1.0, it is the most environmentally friendly chemical clean agent.

Every SAPPHIRE installation carries a 20 year environmental warranty covering both the agent and the system hardware.

Fast Acting Suppression

SAPPHIRE systems work fast, delivering the agent within 6 to 10 seconds, suppressing fires before they have the chance to spread. Most importantly when a fire is suppressed quickly, the result is less damage, lower refurbishment costs and reduced downtime.

Multiple Levels of Protection

- Total Flooding of Hazard Areas
- No Damage to Valuable Assets
- Wide Range of Applications
- Effective on Class A, B and C Fires
- UL Listed
- FM Approved
- LPCB RedBook Listed

System Recharging

As the 3M™ Novec™ 1230 Fire Protection Fluid is stored as a liquid at room temperature the agent may be transported in 300kg drums or 1100kg totes enabling the agent to be made available quickly through a network of approved recharge facilities.



State-of-the-Art Detection and Control

- Addressable or Conventional Options
- Single and Multi-Hazard Agent Releasing Panels
- UL & ULC Listed and FM Approved Options
- CE Marked Option

Globally the SAPPHIRE system is controlled by state-of-the-art detection and control systems using conventional or addressable AUTOPULSE microprocessor, MzXe and FAST 2000 control panels with highly sensitive smoke, heat and flame detectors.

When fire is detected, the control systems will sound alarms, close doors, shut down equipment and release the fire suppression system. The system has manual pull stations and provides automatic detection 24 hours a day, 365 days per year.

The Ultimate Fire Suppression Solution

The GEM brand promises a full range of quality fire protection solutions. Our extensive network of Authorized GEM Distributors provides factory trained professionals to serve our customers virtually anywhere in the world.



UL Listed / FM Approved System	X		X
VdS System Approvals	X	X	
UL listed / FM Approved Selector Valves			X
EN 12094 Approved Selector Valves	X	X	X
EN 12094 Component Approvals	X	X	X
Combined EN 12094 Component Approval / UL Listed / FM Approved System			X
Marine Approvals	X		
CSIRO Approval	X	X	
CNPP Approval	X		
CNBOP Approval	X	X	
GOST Approval	X	X	
BOMBA Approval	X		
LPCB Redbook Listed			X

About Johnson Controls' Building Technologies and Solutions

Johnson Controls' Building Technologies & Solutions is making the world safer, smarter and more sustainable – one building at a time. Our technology portfolio integrates every aspect of a building – whether security systems, energy management, fire suppression or HVACR – to ensure that we exceed customer expectations at all times. We operate in more than 150 countries through our unmatched network of branches and distribution channels, helping building owners, operators, engineers and contractors enhance the full lifecycle of any facility. Our arsenal of brands includes some of the most trusted names in the industry, such as Tyco®, YORK®, Metasys®, Ruskin®, Frick®, PENN®, Sabroe®, Simplex® and Grinnell®.

For more information, visit www.SapphirePlus.com or follow [@JCI_Buildings](https://twitter.com/JCI_Buildings) on Twitter.

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