



Petrochemical, oil and gas



Challenge

Protecting control rooms, data processing facilities and other functional support areas.

Solution

GEM® SAPPHIRE® 25 bar clean agent fire suppression system.

Application

Protecting critical operational infrastructure in cramped conditions.

Fire hazard risk in petrochemical, oil and gas (POG) facilities typically involves areas where flammable liquids, hydrocarbons or gases are transported or stored. A significant part of the site also lies outside of these storage and transportation areas and includes backup power supplies; emergency facilities such as data communications, control rooms and environmental controls; and other ancillary buildings. These areas are critical to the continued safe operation of the overall facility and must be effectively protected against fire risk to help secure vital assets and people safety.

The GEM SAPPHIRE system is an environmentally-friendly clean agent system, with zero Ozone Depletion (ODP) and negligible Global Warming Potential (GWP). It uses 3M™ Novec™ 1230 Fire Protection Fluid, a clear, odourless fluid that vaporises upon discharge and absorbs heat to suppress the fire rapidly. This results in less damage to critical equipment, facilitating a much shorter recovery time and reduced downtime. Safe for use in occupied areas, the SAPPHIRE system protects occupants and critical infrastructure, while delivering effective asset protection in POG facilities.

The GEM SAPPHIRE system is most effective when used with the automatic AUTOPULSE detection and control system to introduce the clean agent rapidly. This detection system is used to actuate a single, fixed fire suppression or alarm system based on inputs received from fire detection devices. The detection circuits can be configured using cross, counting, independent or priority-zone concepts.

Both automatic and manual actuators are available for release of the agent into the hazard area through fixed piping and nozzles. Six nozzle sizes are available to provide the correct flow of agent in either 180 or 360-degree horizontal discharge patterns. For large hazards, containers can be connected to a common manifold.

The GEM SAPPHIRE system carries UL listing, FM and Marine approvals. The system can be designed to meet the requirements of EN 15004, ISO 14520 and NFPA 2001, with components approved to provide the highest quality fire suppression system.