The ANSUL® FM-200 Fire Suppression System protects what matters most, your people and your critical data and equipment.

Cost-Effective Protection for High-Value Assets
High-value assets such as data and sensitive equipment demand the quality fire suppression offered by the ANSUL FM-200 Fire Suppression System. The FM-200 system is ideal for areas occupied by personnel and containing assets that could be damaged by water. The low concentration of agent required and low toxicity means less visual obscuration and minimal risk to people.

The system fights Class A, B and C fires with a clean agent that is electrically nonconductive and will not short-out electronic equipment or thermally shock delicate circuitry. The colorless, odorless gas leaves no residue, eliminating post-fire agent cleanup and minimizing downtime.

Both automatic and manual actuators are available for release of the agent into the hazard area through fixed piping and nozzles. Each nozzle is sized to ensure the correct flow of agent for the hazard and available in seven sizes with seven or eight ports for either 180 or 360 degree horizontal discharge patterns respectively. For large hazards, agent containers can be connected to a common manifold.

Approvals and Standards for the FM-200 system include Factory Mutual (FM); Underwriters Laboratories, Inc. (UL); Underwriters Laboratories of Canada (ULC); NFPA 2001: Clean Agent Fire Extinguishing Systems; ISO-14520: Gaseous Fire Extinguishing Systems; EPA SNAP Report and MEA.
State-of-the-Art Detection Technology

The FM-200 system is most effective when used with the AUTOPULSE Detection 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.

The Ultimate Fire Suppression Solution

The ANSUL brand promises a full range of quality fire protection solutions – from automatic detection and suppression systems to a complete line of wheeled and hand portable fire extinguishers and more. Plus, our extensive network of Authorized ANSUL Distributors provides factory-trained professionals to serve our customers virtually anywhere in the world.

A Passion for Protection

Dedicated customer support. Extensive product portfolio. Engineering excellence. Trusted, proven brands. Tyco Fire Protection Products offers all of these attributes, plus a passion for protection. It's what drives us to create solutions to help safeguard what matters most – your valued people, property and business.

APPLICATIONS FOR THE ANSUL FM-200 SYSTEM

Art galleries
Bank vaults
Cell sites
Communication centers
Computer rooms and subfloors
Control rooms
Electronic data processing
Flammable liquid storage
Healthcare facilities
Historical buildings
Laboratories
Libraries
Museums
Process control rooms
Robotic systems
Studios
Tape storage libraries
Telecommunications facilities
Telephone equipment rooms
Transformer and switch rooms
Vaults/record storage
FM-200™
Waterless Fire Suppression Systems

FM-200™ is accepted and respected worldwide, with a history of protecting some of the world’s most critical and irreplaceable assets. In fact, FM-200™ is in use in over one hundred thousand applications, in more than 70 nations.

Many fire suppression systems can cause major damage to – and even destroy – the very things they are supposed to protect. You’re looking to avoid damage – not cause it. You’re looking to reduce downtime – not lengthen it. You want a fire suppression system that deploys quickly and cleanly and won’t leave behind oily residue, particulate, or water. FM-200™ fire suppressant stops fires fast. When you consider the potentially devastating environmental effects of an uncontrolled fire, it’s easy to see that an FM-200™ system is an important part of an environmentally responsible fire suppression solution.

The FM-200™ Difference

FM-200™ systems reach extinguishing levels in 10 seconds or less, stopping ordinary combustible, electrical, and flammable liquid fires before they cause significant damage. That’s the fastest fire protection available. When fire is extinguished this quickly, it means less damage, lower repair costs, and an extra margin of safety for people. It also means less downtime and disruption.

FM-200™ fire suppressant can be safely used where people are present.

In applications where space is at a premium, FM-200™ fire suppression systems are the superior choice. The FM-200™ agent is stored in cylinders as a liquid and pressurized with nitrogen, saving huge amounts of storage space. In fact, for the same amount of protection, FM-200™ systems take up to seven times less storage space than systems based on CO2 and Inert Gases.

You cannot afford to settle for minimum fire protection when lives and valuable assets are at stake. There’s no substitute for genuine FM-200™ waterless fire protection.

Applications:
- Data Centres
- Gas Turbines
- Petrol Chemical Facilities
- Telecommunications
- Power Generation
- Shipping
- Museums and Archives
- Chemical Storage Rooms

Another Quality Product Distributed by, Multron®

FM-200® is known chemically as Heptfluoropropane (HFC 227ea)
FM-200® is a registered trademark of Chemours
Those responsible for managing and protecting high-value assets, processes, and facilities demand the quality fire suppression offered by the ANSUL® FM-200™ Clean Agent Fire Suppression System. FM-200 systems are internationally accepted as providing reliable, effective, affordable fire protection solutions for applications found in telecommunication sites, data centers and archives, museums, oil and gas facilities, power plants, and more.

The ANSUL FM-200 Clean Agent Fire Suppression System is approved and listed by Underwriters Laboratories (UL) for Class A, B and C fires. Safe for use in occupied areas at the design concentration, the system helps protect critical infrastructure and delivers effective asset protection.

The system uses FM-200 (HFC-227ea) fire extinguishing agent which has zero ozone depletion (ODP). This colorless, odorless agent vaporizes upon discharge and absorbs heat to rapidly suppress fire while leaving no residue to clean up. It is electrically nonconductive, will not short-out electronic equipment or thermally shock delicate circuitry resulting in less damage to critical equipment, facilitating a much shorter recovery time and reducing downtime.

**Benefits :-**
- In compliance with ISO 14520
- Meets NFPA 2001 standards
- Discharges within 10 seconds
- Wide range of cylinder sizes
- Choice of various types of activation
- Durability through solid brass valves
- Optional Pressure Monitoring Switches
- Versatile range of Nozzles
- UL Listed

**Environmental :-**

<table>
<thead>
<tr>
<th></th>
<th>Ozone Depletion</th>
<th>Global Warming Potential</th>
<th>Atmospheric Lifetime</th>
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<tr>
<td></td>
<td>0</td>
<td>3220</td>
<td>34.2 years</td>
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**Toxicology :-**

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<thead>
<tr>
<th></th>
<th>Heart Cardiac Sensitization</th>
<th>NOAEL</th>
<th>LOAEL</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>9%</td>
<td>10.5%</td>
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| Lowest Observed Adverse Effect Level (LOAEL) | 10.5% |

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**FM200 CYLINDER**

The agent storage vessel consist of a cylinder fitted with a valve and internal siphon tube, factory filled with FM200 and super pressurized with nitrogen to 25 bar. Cylinders are finished in Gloss Enamel Red and are available in various sizes.

<table>
<thead>
<tr>
<th>Nominal Volume</th>
<th>Fill Weight (kg)</th>
<th>Outlet Size (mm)</th>
<th>Dimension A (mm)</th>
<th>Diameter (mm)</th>
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<tbody>
<tr>
<td>8 Litre</td>
<td>4.0 to 8.0</td>
<td>Ø25</td>
<td>304</td>
<td>Ø254</td>
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<tr>
<td>16 Litre</td>
<td>8.0 to 16.0</td>
<td>Ø25</td>
<td>502</td>
<td>Ø254</td>
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<tr>
<td>32 Litre</td>
<td>16.0 to 32.0</td>
<td>Ø25</td>
<td>833</td>
<td>Ø254</td>
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<tr>
<td>52 Litre</td>
<td>26.0 to 52.0</td>
<td>Ø50</td>
<td>596</td>
<td>Ø406</td>
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<tr>
<td>106 Litre</td>
<td>53.0 to 106.0</td>
<td>Ø50</td>
<td>1021</td>
<td>Ø406</td>
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<tr>
<td>147 Litre</td>
<td>73.5 to 147.0</td>
<td>Ø50</td>
<td>1354</td>
<td>Ø406</td>
</tr>
<tr>
<td>180 Litre</td>
<td>90.0 to 180.0</td>
<td>Ø50</td>
<td>1634</td>
<td>Ø406</td>
</tr>
<tr>
<td>343 Litre</td>
<td>171.5 to 343.0</td>
<td>Ø80</td>
<td>1466</td>
<td>Ø610</td>
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</tbody>
</table>
TYPICAL CLEAN AGENT SYSTEM SCHEMATIC

The above may vary in accordance to the practices in different countries and requirements of the Authorities having jurisdiction.

TYPICAL CLEAN AGENT SYSTEM EQUIPMENT LAYOUT

Legend:
1. Gas Cylinders
2. Manifold
3. Discharge Nozzle
4. Fire Detectors
5. Alarm Bell
6. Sounder Strobe
7. EVACUATE AREA Flashing Sign
8. GAS DISCHARGED Flashing Sign
10. Manual Abort Station
12. Caution Sign
13. Fire Extinguishing Panel

TYPICAL OPERATING SEQUENCE

1) Activation Stage 1 (1st Alarm)
   1.1) First detector senses Fire in the protected area and send signal to the Control Panel.
   1.2) Alarm Bell Sound
   1.3) "Evacuate Area" Sign flashing
   1.4) Strobe Light flashing

2) Activation Stage 2 (2nd Alarm)
   2.1) Adjacent detector senses Fire and send signal to the Control Panel
   2.2) Sounder Alarm
   2.3) "Gas Discharged" Sign flashing
   2.4) Countdown Timer commence (Normally pre-set to 60s)
   2.5) Once Countdown reaches zero, signal will be sent to activate the Solenoid Actuator at the Agent Cylinder.

The above may vary in accordance to the practices in different countries and requirements of the Authorities having jurisdiction.
IN-HOUSE DESIGN & AGENT FILLING STATION (UL LISTED)

Multron Design Team is able to offer cost effective and suitable solutions to meet various hazards requirements. Our Computer Hydraulic Calculations will ensure optimum pipes sizing, and agent applications to efficiently protect the hazardous areas.

Our Filling Station is one of the rare few in this region that is approved and UL Listed, ensuring our clients that we are providing quality products (Clean Agent), adhering to proper procedures, and with qualified technicians handling the equipment.