

رؤية
2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA



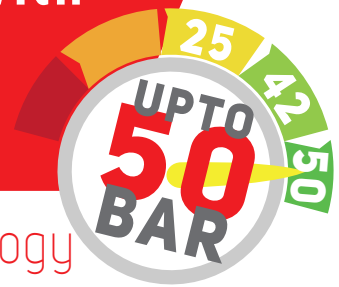
Prime Series

Clean Agent

Fire Extinguishing Systems



Efficient and Compact Fire Protection with SFFECO Prime Series Clean Agent Fire Extinguishing System



SFFECO Prime Series fire extinguishing systems fight fires using HFC-227ea/FK-5-1-12. This extinguishing agent is particularly suitable for the protection of spaces with electronic and electrical equipment and offers an economical fire protection solution especially for small and medium-sized rooms. The 50 bar technology of the system makes optimal use of the characteristics of this extinguishing agent.

The clean agent extinguishing agent reduces the heat of the fire and thus stops the combustion reaction. It is very efficient yet unaggressive at the same time.

The extinguishing agent is stored as a liquid and transforms into a gas only when it exits from the extinguishing nozzles. It therefore extinguishes, as a rule, even concealed fire sources instantaneously. The rapid extinguishing of a fire already in the nascent phase minimizes the fire damage and prevents long downtimes or business interruptions.

Furthermore, unlike the case of water, foam or powder – secondary damage caused by the extinguishing agent itself is practically impossible. Clean agent is neither corrosive nor electrically conductive, leaves no residue and can easily be removed from the space concerned through ventilation.

Besides Furthermore, the comparatively small quantity required for use is stored in liquid form. This allows for extremely compact storage of the extinguishing agent. In addition, in the design concentration of clean agent does not present any health hazard, which is why SFFECO Prime Systems installations are also suitable for areas that are accessed by people.

50 bar technology

In addition to the operating pressures of conventional clean agent fire extinguishing systems of 25 bar and **42** bar, SFFECO Prime Series Extinguishing Systems are available in a **50 bar** configuration, which offers some significant advantages. For example, they can be adapted individually and tailored specifically to the requirements of the protected area.

Longer Pipe Lines

The regulations for fire extinguishing systems using clean agent require that the protected area be flooded within a maximum of 10 seconds. The **50 bar** technology makes it possible to use longer and more complex piping than systems using lower operating pressures. This means that the extinguishing agent can also be stored outside the protected area.

Specifications:

Cylinder Volume	: 22 L, 40L , 80L , 140L and 180 L
Cylinder Pressure	: 25, 42, 50 bar (360, 610, 725 psi)
Extinguishing Agent	: HFC227ea / FK-5-1-12
Operating Temperature	: 18°C to +50°C 0°F to +122°F
Working Pressure	: 60 bar / 60°C 870psi / 140°F
Cylinder Finish	: RAL 3000 Flame Red

Clean Fire Extinguishing Agent



SFFECO Prime 227 Fire Extinguishing Systems fight fires using HFC-227ea.

HFC-227ea is suitable for Class A, B, C fires and it is superior to water and dry chemical fire extinguishing agents.

It is active on fire with complete extinguishment capability designed to fully discharge within seconds.

HFC-227ea is Hepta Fluoropropane (CF₃CHFCF₃). It is liquefied compressed colorless, odorless, electrically non-conductive gas, works to quench fires in seconds and holds damage to a max.



SFFECO Prime FK System is economical and modular Fire Extinguishing system.

It is suitable for Class A, B, C fires and it is superior to water and dry chemical fire extinguishing agents. It is active on fire with complete extinguishment capability designed to fully discharge within seconds.

SFFECO Prime FK Fire Extinguishing Systems fight fires using FK-5-1-12. This extinguishing agent is particularly suitable for the protection of spaces with electronic and electrical equipment and offers an economic and modular fire protection solution.

SAFE & EFFECTIVE

ECONOMICAL

ODORLESS

TOTAL FLOODING

NO DAMAGE

SELF CONTAINED

This extinguishing agent is particularly suitable for the protection of spaces with electronic and electrical equipment and offers an economical fire protection solution especially for small and medium-sized rooms. The system can be used even if people are present in the premises. The HFC-227ea extinguishing agent reduces the heat of the fire and thus stops the combustion reaction. It is very efficient yet unaggressive at the same time.

NO RESIDUE

COST-EFFECTIVE

ZERO OZONE DEPLETION

SHORT ATMOSPHERIC LIFE

NON-TOXIC

RAPID ACTING

ECO-FRIENDLY

GLOBAL WARMING SAFE

The extinguishing system agent is Fluorinated Ketone (FK-5-1-12). It is clear, colorless, almost odorless, electrically non-conductive liquid.

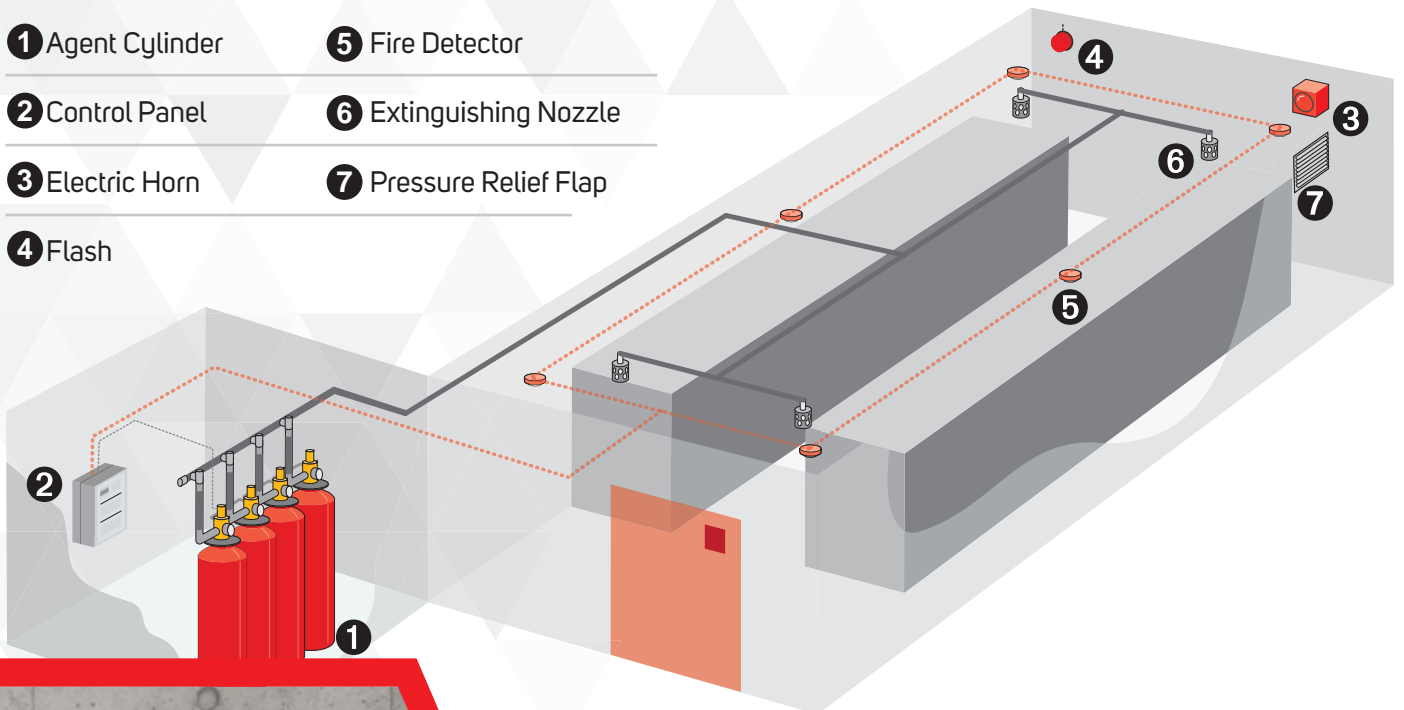
It is a long-term sustainable technology with zero ozone depletion, extremely low global warming potential, and short atmospheric lifetime.

Structure and Function

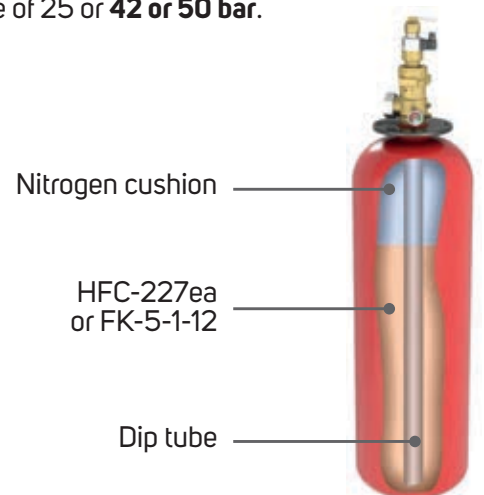
SFFECO Prime Series Fire Extinguishing Systems can be designed for use as a **SINGLE-ZONE SYSTEM** to protect a single protected area or in the form of a **MULTI-ZONE SYSTEM** to protect two or more areas.

Single Zone System

- 1 Agent Cylinder
- 2 Control Panel
- 3 Electric Horn
- 4 Flash
- 5 Fire Detector
- 6 Extinguishing Nozzle
- 7 Pressure Relief Flap

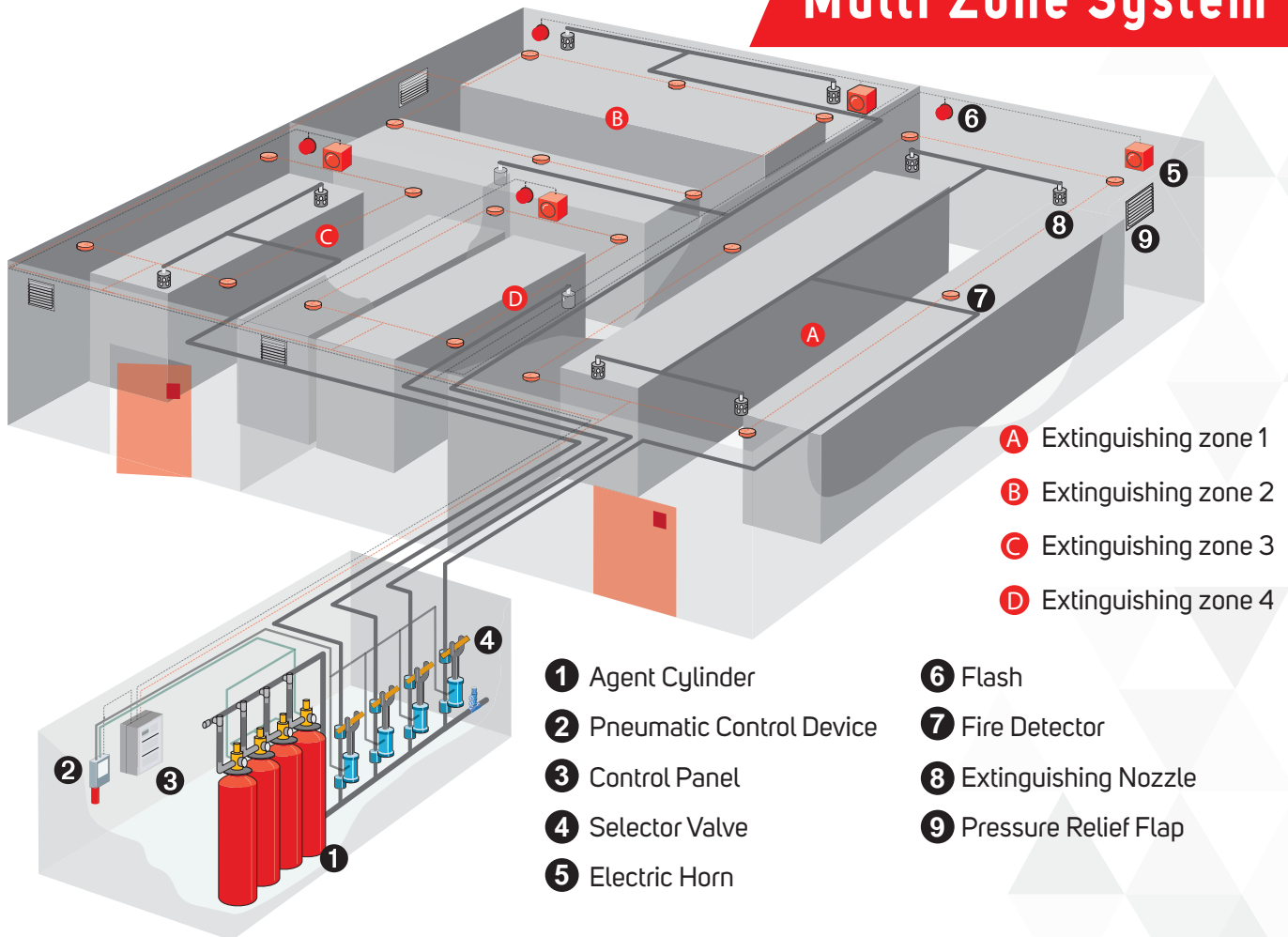


The extinguishing agent is stored in liquid form in special cylinders, where a nitrogen cushion is superimposed over the extinguishing agent and thus generates the operating pressure of 25 or 42 or 50 bar.



To protect smaller rooms, a single cylinder is often sufficient. Multi-cylinder systems are used to protect larger rooms.

Multi Zone System



Multi zone system helps to save space & investment cost and it is easy extendable at any time. With 50 bar technology, it is possible to set up one multi-zone system instead of several single-zone systems. Multi-zone systems make use of a common, single stock of extinguishing agent for all rooms while, in the case of single-zone systems, a separate storage facility must be provided for each room. As such, multi-zone systems reduce costs and save space.

Multi zone systems are very similar to single zone systems, except that they use a common stock of extinguishing agent to protect all rooms.

In the event of a fire, the fire detection and control panel controls specific selector valves. These valves release the extinguishing agent only into the extinguishing zones affected by the fire.

The required quantity of extinguishing agent is always calculated in relation to the largest protected space.

The pneumatic control system will only supply the agent required to hazards affected. With the connected reserve of extinguishing agent, the fire extinguishing capacity of the system is guaranteed even after the extinguishing system has been triggered - providing continuous, uninterrupted operation.

Advantages of multi zone system:

- ▶ In the event of fire, the extinguishing system itself is not exposed to fire.
- ▶ The space in the protected area can be used for its actual purpose, e.g. for additional server cabinets in the server room.
- ▶ The stock of extinguishing agent can be serviced quickly and easily without having to enter sensitive areas.

SFFECO Design Manager

In the pipework, a two-phase flow - composed of liquid HFC-227ea / FK-5-1-12 and gaseous nitrogen – is generated after activation of the extinguishing system; this presents a particular challenge for the hydraulic calculation when planning the system.

SFFECO Prime Fire extinguishing systems are designed for specific projects with the SFFECO DesignManager. This design programme is based on a specially developed simulation model for the two-phase flow, which has been verified in numerous flow tests on extinguishing system models.

Thanks to the calculation accuracy of the SFFECO DesignManager, extinguishing systems can be optimally designed - both as regards safety systems

and from an economic perspective: the designed extinguishing systems have been proven to be dependable and effective. Unlike conventional design programmes, the SFFECO DesignManager is also able to calculate complex and asymmetric pipework, thus offering more flexibility in the system design.

Whether a **50 bar** or 25 bar system, symmetric or asymmetric pipework – SFFECO DesignManager will always find the ideal system version and solution for each project.

Another highlight: An interface to the AutoCAD software integrated into the SFFECO DesignManager offers a convenient design of the installation and makes it possible to import the result into the project documents and system records afterwards.

Reasons to choose a SFFECO Prime Extinguishing System:

- ▶ The systems provide an excellent extinguishing effect in rooms with electronic and electrical equipment.
- ▶ The SFFECO Prime extinguishing system agent is also very suitable for zones that are frequented by people and has no ozone depletion potential.
- ▶ Operating pressures up to **50 bar** allow for more extensive pipework and storage of the extinguishing agent outside the protected area.
- ▶ Through cost-effective multi-zone systems, a single stock of extinguishing agent is sufficient to cover several zones.
- ▶ The software calculates complex, asymmetrical pipework automatically and delivers optimal solutions - both from a safety related and an economic perspective.



Where to use Clean Agent System?

- ▶ Server rooms and other IT facilities
- ▶ Data archives
- ▶ Telecommunications equipment
- ▶ Control rooms and control stations
- ▶ Instrumentation and control rooms
- ▶ Electrical switch rooms
- ▶ Switchgear and distribution cabinets

▶ INDUSTRIAL

- ▶ Flammable Liquid Storage Rooms
- ▶ Process Control Rooms
- ▶ Laboratories
- ▶ Engine Test Cells
- ▶ Oil & Gas exploration

▶ HEALTHCARE

- ▶ Medical Record Storage
- ▶ CT/CAT Scan & MRI Control Rooms

▶ MILITARY AND TRANSPORTATION

- ▶ Combat Vehicles
- ▶ Marine engine rooms
- ▶ Merchant marine vessels
- ▶ Mass transportation vehicles
- ▶ Commercial & Military aviation

▶ BROADCASTING

- ▶ Radio & TV Stations
- ▶ Electronic Control Rooms
- ▶ UPS Rooms
- ▶ Media Storage
- ▶ Historic Record Storage

▶ COMPUTER & CONTROL CENTERS

- ▶ Server Rooms
- ▶ Electronic Data/Tape Storage
- ▶ Electrical switchgear & Cabinets
- ▶ UPS Rooms
- ▶ Air Traffic Management Control Centers
- ▶ Railways Signaling Control Centers

▶ TELECOMMUNICATION EQUIPMENT

- ▶ PBX & IDF Rooms
- ▶ Cell Sites
- ▶ Microwave Relay Towers

▶ CULTURAL

- ▶ Museums
- ▶ Libraries
- ▶ Personal/Corporate Collections

▶ MISCELLANEOUS

- ▶ Bank Vaults
- ▶ Cash/Security Departments
- ▶ Precious Inventory



SFFECO HAS A LONG STANDING ESTABLISHED REPUTATION FOR PIONEERING INNOVATION EVER SINCE ITS FOUNDATION IN 1983.

SFFECO HAS ITS STATE-OF-THE-ART MANUFACTURING PLANTS IN RIYADH AND DUBAI PRODUCING END-TO-END RANGE OF PRODUCTS FOR THE FIRE FIGHTING INDUSTRY MATCHING INTERNATIONAL STANDARDS IN QUALITY.

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