Fire Suppression

Prevention Systems

GST - 21GNLPS7947Q1ZU

ACHYUTA Fire Safety

KITCHEN SUPPERRSION SYSTEMS

INTRODUCTION

Risk of fire hazard proves to be very dangerous in the modern commercial kitchen. Fire in kitchen is generally due to burning of oil. However oil & fats burn at relatively high temperature and hence once they catch fire, extinguishing them is very difficult. Open flames, red hot cooking surfaces and a heavily grease- laden environment help the kitchen fire to spread quickly and have proven to be very difficult to extinguish. With the aim to protect modern kitchens from such risks we provide solutions for KITCHEN FIRE SUPPRESSION SYSTEM.

UL LISTED FM APPROVED NFPA

LPCB

LPCB Certified and Listed for Fixed Fire Extinguishing Systems for Catering Equipment. Tested for quality, Safety and Performance according to LPS 1223, Issue 2.3.

SYSTEM DESIGN

- The Kitchen Fire Suppression System is designed to provide fire protection in hoods and ducts of cooking appliances for restaurants.
- The basic system consists of wet agent tank enclosed in a cylinder mounting box, Temperature Sensors, Heat sensing cable, Control panel, Nozzles & piping.
- The system provides automatic actuation with an option of being actuated manually through a remote manual pull station.
- Additional equipments such as remote manual pull station, mechanical and electrical gas valves, pressure switches, electrical switches & accessories such as alarms, warning lights, etc. can be integrated with the system.
- As the fire is detected Control Panel activates the wet agent tank and wet agent is discharged extinguishing the fire.
- Single and Multi Wet Agent tank system is available according to hood size of kitchen.
- The system is developed according to the NFPA, LPCB & UL and other safety Standards. It can be widely used in the Kitchens of the Hotels, Institutes, Restaurants, and Schools etc.
- systems available in proprietary continuous linear sensor tube, Heat sensor, mechanical or electronic system.

KITCHEN SUPPERRSION SYSTEMS

SYSTEM OPERATION :

The System suppresses fire by spraying Low pH Liquid Fire Suppressant on the hood area, the filters, cooking surfaces, and the exhaust duct system with a predetermined flow rate. When the liquid agent is discharged onto a cooking appliance fire, it cools the grease surface, and reacts with the hot grease forming a layer of soap-like foam on the surface of the fat. This layer acts as insulation between the hot grease and the atmosphere, thus helping to prevent the escape of combustible vapors.

1. Quick & Easy installation directly above high-risk cooking areas: The flexible sensor tubing is easily installed directly inside the extractor hood - directly above cooking areas.. When in service, the tubing is pressurized with dry nitrogen to 16 bar. The dynamics of pressurization make the tubing more reactive to heat.

2. Early fire detection: If a flame-up occurs, the heat of the fire causes the pressurized Sensor tube to burst at the hottest spot (approx. 175°C).

3. Instant suppression: The sudden tube depressurization actuates the special pressure differential valve and instantly floods the cooking area with Class F extinguishing agent. The fire is quickly suppressed just moments after it began minimizing damage and downtime.

★Effective protection of kitchen hood and multiple cooking zones

★Linear detection provides a broader detection coverage

★Protects small, medium and large commercial kitchens with just one system

A COMPLETE DETECTION & SUPPRESSION SYSTEM FOR ELECTRICAL CABINETS

★ Easy / Flexible installation.

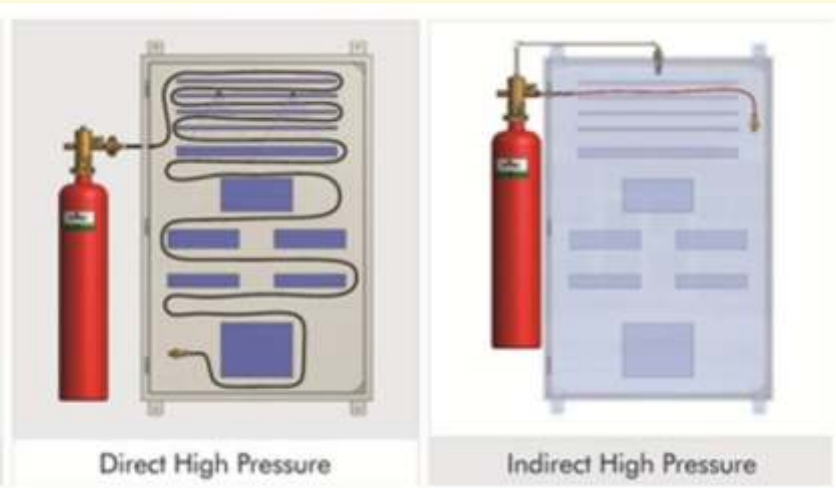
★ Quick & Effective suppression.

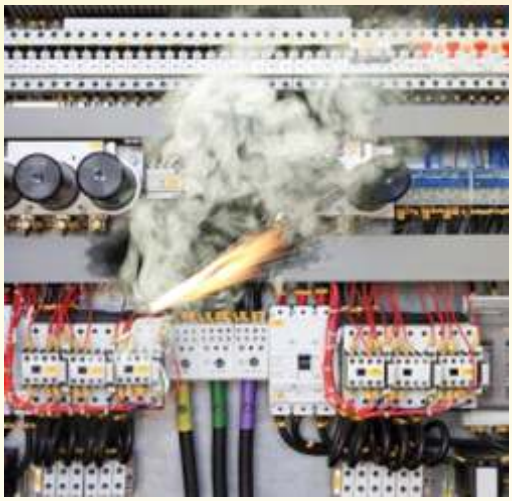
★ Highly Non-Dependable - No electricity or moving parts required Linear heat detection tube sense fire anywhere the entire length of fire detection tube System activates automatically.

ELECTRICAL PANEL SUPPRESSION SYSTEM

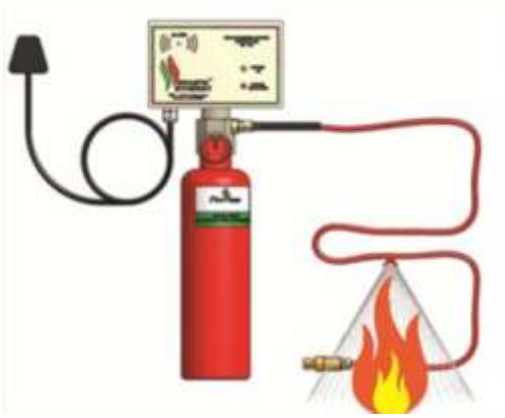
REDUCES EVEN THE MOST CRITICAL ELECTRICAL FIRE RISKS:

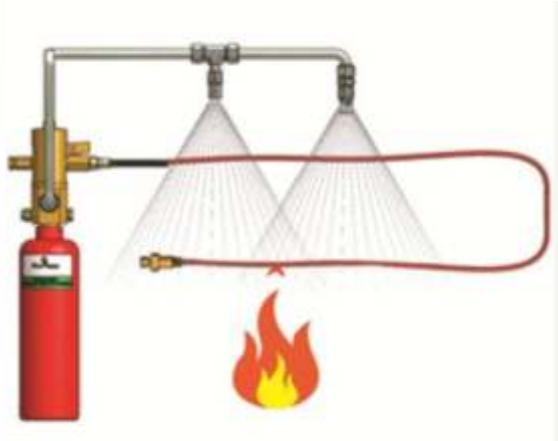
✶ **Quick & Easy installation directly inside electrical cabinets:** The flexible sensor tubing is easily installed inside the electrical cabinet - directly above the wires and circuit where a fire could start.
When in service, the tubing is pressurized with dry nitrogen to 16 bar. The dynamics of pressurization make the tubing more reactive to heat.
✶ **Early fire detection:** If a flame-up occurs, the heat of the fire causes the pressurized sensor tube to burst at the hottest spot (approx. 110°C)
✶ **Instant suppression:** The sudden tube depressurization actuates the special pressure differential valve and instantly floods the entire cabinet area with CO2 extinguishing agent. The fire is quickly suppressed just moments after it began minimizing damage and downtime.
✶ **Safe on :** machine as it uses clean agent like NOVOC 1230/FM200





It has 2 type of suppression system :
✶ **Direct suppression –**In the direct system at the time of fire the heat sensitive polymer tubing attached to the fire sense system itself burst at particular temperature foaming a small nozzle and from this nozzle the clean agent extinguishing is released flooding the localised area and instantly douses the fire.
Application area- such as electrical panels, server rack, industrial equipment, machine etc
✶ **Indirect –** in the indirect system heat sensitive polymer cubing acts only as a detection device. in this method at the time of fire heat sensitive polymer tubing attached to the fire sense system detects the fire and the operates the fire sense system valve and the extinguishing is delivered through steel pipes and entire area is flooded through nozzles attached to the pipes.
Application area- An indirect release system is typically used in larger areas that require a high volume of extinguishing agents to suppress the fire effectively, , Data centre, CNC Machine, Whole Electrical Rack, Large Area



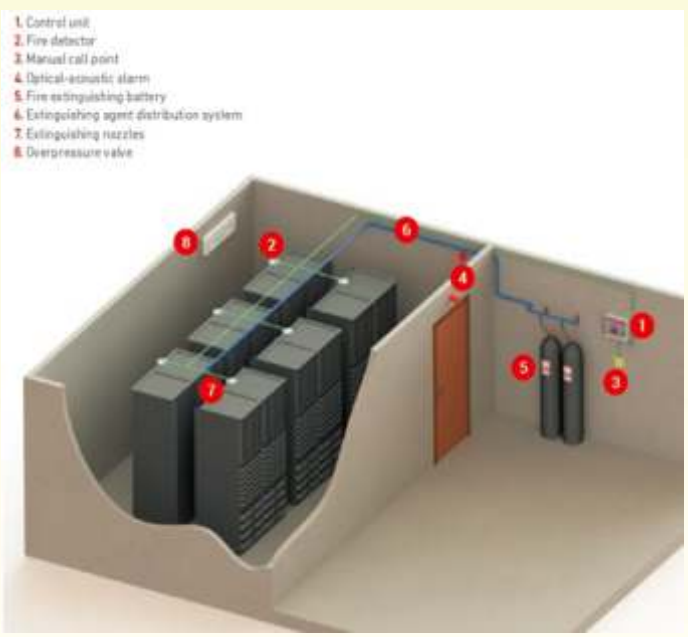


CLEAN AGENT FIRE SUPPRESSION SYSTEM

CLEAN AGENT FIRE SUPPRESSION SYSTEM ON EQUIPMENT:-

ARGONITE/ INERGEN
CO2
FM200
NOVEC 1230

This System is intended to prevent or extinguish fires automatically within seconds, where there is electrical or sensitive electronic equipment serving a critical operation, the loss of which would not only be the value of the equipment but also the cost of business interruption such as caused by damage.



HOW WATER LESS FIRE SUPPRESSION SYSTEMS WORK

Clean agent fire suppression systems commonly include three key elements:
✶ notification devices,
✶ control panel
✶ smoke detectors.
The smoke detectors are the first line of defense and activate the control panel when smoke is detected. The control panel then sends word to the notification devices and through to the piping to begin releasing the water less agent into specific locations. Occupants will see and hear the active notification devices and know that the fire suppression agent will release soon

Application Area : Clean Agent Fire Suppression is a suitable agent for normally occupied spaces. FM200 fire suppression systems are commonly used in:
✶DATA Centres
✶IT Rooms
✶Telecommunication facilities
✶UPS Rooms
✶Medical facilities
✶Industries

CLEAN AGENT SUPPRESSION SYSTEMS

BENEFITS OF CLEAN AGENT FIRE SUPPRESSION SYSTEM

- Employee Protection
- Quick Response
- Minimal Damage
- Safe for sensitive devices

SYSTEM AND SOLUTIONS WE OFFER

- Gas based Fire Suppression System (FM – 200/NAF S125/NOVEC – 1230/IG541/ARGONITE/CO2) Quick Detection and Suppression System for kitchens, Industries etc.
- Passive fire Protection/ Fire Stopping Solution.
- Foam Fire Suppression System .
- Medium /High Velocity Water Spray System .
- Automatic Hydrant, Sprinkler and Fire Alarm & Detection Systems.

ACHYUTA
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