



FIRETRACE[®]
AUTOMATIC FIRE SUPPRESSION SYSTEMS

FUME CABINET

Fire Protection Solutions



The Firetrace tubing “bursts” at the point of highest heat, triggering the release of the fire suppressing agent.



Firetrace detection tubing installed behind the fume cabinet’s baffle assures fast and reliable fire detection.



Firetrace detection tubing installed in front of the fume cabinet’s exhaust – directly in the path of a fire.

THE PROBLEM

Working with chemical compounds and mixtures is inherently dangerous. The fumes, gasses, dust and vapors that emanate from these substances may be flammable, infectious, toxic or corrosive. Fume hoods are designed to provide a physical barrier between hazardous chemicals and laboratory workers and offer a good level of protection against exposure.

While fume hoods help control the risk of fume inhalation, they provide little or no protection against the risk of fire. Virtually all labs have procedures in place to help prevent fires; however, accidents can and do happen and the presence of ignition sources such as gas burners, hot plates and pyrophoric materials – and the inherent volatility of chemical compounds and reagents – all lead to a significant fire risk. Until Firetrace, effectively protecting fume cabinets has been difficult and cost prohibitive. Some systems use sprinkler heads to detect a fire, but the high volume of air flow in the hood makes detection difficult and can delay or even eliminate activation.

THE FIRETRACE SOLUTION

The Firetrace concept is simple: detect and suppress a small fire before it grows, consumes the hood, and triggers the building’s water sprinkler system. Aside from increased damage caused by smoke and flames from a growing fire, sprinkler system activation can result in significant water damage. In fact, the damage caused by fire can pale in comparison to the collateral damage from smoke and water, which is why a Firetrace system provides the perfect “local” fire protection solution for fume cabinets.

Detecting a fire in its early stage is of paramount importance in reducing the risk of injury to personnel and/or the damage to equipment. Our proprietary Firetrace Detection Tubing (FDT) is the key to fast, accurate fire detection. This flexible, heat sensitive, polymer tubing is mounted behind the baffles of a fume cabinet. As a fire begins, the flames immediately follow the airflow into the cabinet’s baffles. With the Firetrace tubing crisscrossing the baffles, quick detection is assured.

A Firetrace suppression system provides immediate, in-cabinet fire protection. When the FDT senses heat of approximately 212°F (100°C) it bursts, which triggers the release of the fire suppressing agent. The agent is delivered directly onto the fire via nozzles located within the fume cabinet. The pneumatically-activated Firetrace system requires no electricity to operate and is compatible with “clean” extinguishing agents such as DuPont™ FM-200® (HFC-227ea), CO₂ and ABC dry chemical powder.

FIRETRACE ADVANTAGES:

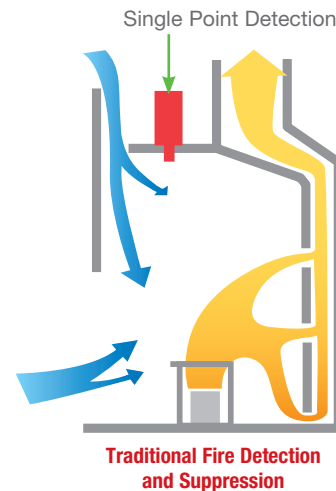
- ✦ Fast, reliable 24/7 automatic detection and suppression
- ✦ Activates in seconds before a fire can significantly threaten life and property
- ✦ Suppresses a fire even if the sash is open
- ✦ Prevents the release of fumes that can damage instruments and equipment
- ✦ Can be installed on any new or existing fume hood
- ✦ Requires no electrical power to operate
- ✦ No false activations, reacts only to open fire or flames
- ✦ Can be integrated with fire monitoring systems
- ✦ Manual release option is available
- ✦ Compatible with most commercially available fire suppressing agents

FIRETRACE SYSTEM CONFIGURATION

Firetrace recommends the use of a Firetrace Indirect system to protect fume cabinets. In these applications Firetrace Detection Tubing is used as the fire detector behind each of the baffles. A piping network delivers the suppressing agent from the cylinder to the enclosure. The Indirect system can be configured with single or multiple nozzles to evenly distribute the suppressing agent and ensure that the entire enclosure is quickly and evenly filled. The nozzle style will vary depending on the type of agent used and the volume of the cabinet.



While Firetrace is designed to be fully automatic, a manual release is also provided as an activation option. Additional features include the option for multiple pressure switches which can perform functions such as activating local or building alarms, or shut off fuel valves and electrical devices that might be located in or near the fume cabinet.



Ineffective Fire Suppression

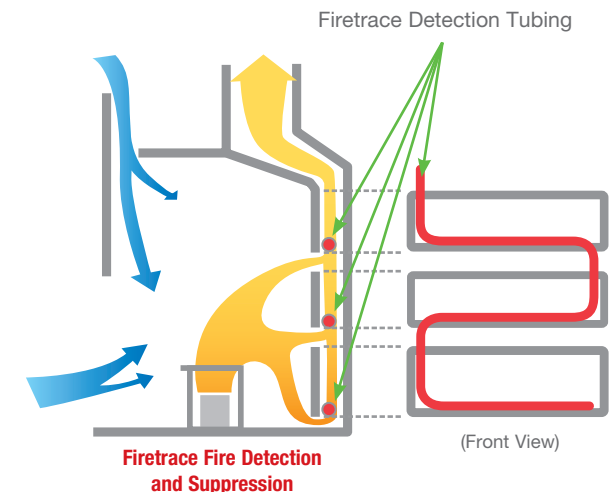
Fresh airflow (blue arrows), combined with the outflow through the baffles can direct flames and heat (red arrows) in multiple directions based on the location of the source of the fire. This increases the probability that the heat and flames required to activate the system may never reach the single point type detection device on the cylinder. By the time the fire would be large enough to overcome the airflow and activate the system, the amount of damage could be staggering.

To effectively protect the hood, detection must be available in any path the flame and heat might follow.

Effective Fire Suppression

What makes Firetrace the ideal fire-suppression system for fume hoods is the Firetrace Detection Tubing that is fitted behind the baffles and across the exhaust duct openings.

These areas, by the design of the fume hood, are exactly where the heat and flames are drawn. Placing detection in each likely path of the heat and flame results in a quick detection and suppression of the fire (many times faster than traditional detection), minimizing fire damage to the hood and lab.



FIRETRACE®

AUTOMATIC FIRE SUPPRESSION SYSTEMS

Fume Cabinets and the Firetrace Technology

Firetrace has more than 250,000 systems installed protecting business critical equipment worldwide. Firetrace has its origins in the late 1980's in the United Kingdom as a special hazard fire suppression system. Through the 1990's applications expanded to include enclosures such as fume hoods and electrical cabinets as distribution increased in Europe.

In 2001, the worldwide rights to Firetrace were purchased by Firetrace International, a group of fire suppression industry veterans who could see the value in creating fire suppression systems for "micro-environments." This concept is simply providing supplemental protection that suppresses fire quickly within a smaller protected space before larger room or building systems would activate. As a result of this supplemental protection, fire damage, both direct and collateral, and costs associated with cleanup and downtime are significantly reduced or eliminated. Available in multiple system sizes (ranging from one pound (.5kg) systems to 50 pound (22.5kg) systems) and utilizing a variety of fire suppressing agent options, Firetrace is now the leading fire suppression system for virtually any enclosed application.

Firetrace also now offers engineered total flooding systems for rooms. Firetrace Total Flooding systems are available in sizes from 16 pounds (7 kg) to 1200 pounds (544kg) and can be designed to fit even the largest of environments. In combination with the traditional Firetrace system offering, Firetrace's lineup features the widest range of cylinder sizes of any fire suppression manufacturer.



Firetrace currently has more than 20 international approvals and listings, including: UL, CE, FM, ULC & ISO9001. Approvals and listings vary by system type and agent.

Firetrace Systems are currently in use by companies such as:

- ✦ British Nuclear Fuels
- ✦ Caterpillar
- ✦ Chevron
- ✦ Conoco
- ✦ Glaxo-Wellcome
- ✦ ICI
- ✦ Kimberly Clarke
- ✦ Pfizer
- ✦ Shell
- ✦ Smith, Kline and Beecham
- ✦ United States Army Research Labs
- ✦ United States Air Force Labs

Firetrace is available exclusively through our worldwide distributors, each of which has been properly trained in the installation and maintenance of Firetrace systems. To locate the Firetrace distributor nearest you please contact us at:

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