

**SIEMENS**

Building Technologies



Highly innovative safety  
solutions – to be sure!  
Sinorix™ fire extinguishing  
systems from Siemens.



## Fire extinguishing systems Protect your business

### A risk you can't afford to take

Fires in business premises often have dire consequences: The loss of machinery and equipment, delivery bottlenecks and the loss of market share and customers can lead to financial ruin. This is no exaggeration! International research has shown that 78% of all companies that suffer a major fire are out of business within three years.

Risks that threaten the continuity of a business must be eliminated, so responsible managers make fire prevention an integral part of company operations.

### Time as a safety factor

A critical factor in fire prevention is the time between the discovery of the fire and the moment action is taken to put it out. The shorter the response time, the less severe the direct and consequential damage will be.

### How a fire develops and intervention methods



### Early intervention

An effective fire extinguishing system either puts fires out at an early stage or prevents them from starting at all. This is particularly important for businesses in which high risk factors are involved, such as:

- immediate risk of personal injury or death
- very valuable property (inventory, equipment)
- significant loss of income
- danger of explosion



**Sinorix™ at a glance**

**Sinorix™ Cerexen**

Extinguishing agents:  
nitrogen, argon or carbon dioxide.

**Sinorix™ CDT**

Extinguishing agents:  
nitrogen or argon at a constant discharge pressure.

**Sinorix™ 227**

High and low pressure technology combined with the world's most widely spread chemical extinguishing agent.

**Sinorix™ 1230**

High pressure technology combined with a state-of-the-art chemical extinguishing agent.

**Sinorix™ GasSpray**

Extinguishing agents: fine water mist and nitrogen.

**Sinorix™ CerSpray**

Extinguishing agent: water vapor spray.

high risk of fire (hot surfaces, engine testing, generators, transformers)  
highly flammable materials (cotton, flammable fluids)  
poorly accessible areas (cable wall ducts, distributor rooms, underfloor cavities for cables)

**Unmistakable detection as the basis ...**

Siemens offers comprehensive fire prevention solutions. The cutting-edge technology from Siemens, embodied by intelligent fire sensors that rapidly detect and localize the source of a fire, underline Siemens' market leadership. Reliable fire detection not only lets you intervene promptly, but enables you to tailor the intervention most effectively.

**... for successful fire extinguishing**

The fast fire extinguishing systems from Siemens perfectly complement their early detection devices. In many cases, an automatic fire extinguishing system is the intervention of choice, enabling you to extinguish a fire rapidly in the earliest phases.

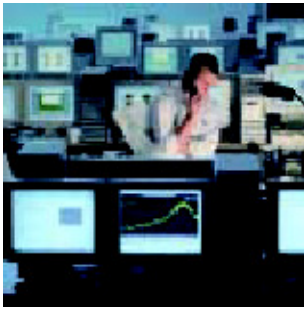
**Sinorix™: for fast results**

Each type of fire extinguishing system has properties that are particularly effective in specific situations. However, in other circumstances, these properties may be counterproductive.

Thus, Siemens offers not only one universal solution but six different types of fire extinguishing systems. With Siemens, you can be sure of having the best fire extinguishing system, tailored to your particular needs.



## Sinorix™: extinguishing with chemical agents



### Sinorix™ 227: extinguishing system with HFC227ea

#### Operating principle

The chemical extinguishing agent, HFC227ea, is stored in liquid form in the storage containers and pressurized with nitrogen. The nitrogen is used to transport the gas to the individual nozzles, where it evaporates rapidly, creating a homogeneous atmosphere in the room. A single HFC227ea molecule decomposes into 10 atoms when exposed to the heat of a flame. The extreme speed with which HFC227ea extinguishes a fire is the result of the sudden expansion in volume, reduction of the local oxygen concentration and the high level of heat absorption involved in this decomposition process.

#### Advantages

- No risk of personal injury
- Faster than extinguishing systems using natural gases, extinguishing agent release in less than 10 seconds
- Extinguishing agent storage takes up little space as consumption is very low
- Low extinguishing agent concentration needed
- Modular design option using multiple extinguishing agent storage containers in the protected area
- Possible to use existing piping systems, e.g. when upgrading Halon 1301 systems
- No danger of ozone layer depletion (ODP = 0)
- Best environmental compatibility of all the HFCs

#### 25 bar system

The market standard 25 bar technology fire extinguishing system is also within the Sinorix™ portfolio. The main feature of this system is the ability to utilize large storage containers.

#### 42 bar system

Siemens was the first manufacturer to develop a 42 bar high pressure fire extinguishing system that extinguishes fires even faster than the standard 25 bar system.

Storing the extinguishing agent in 42 bar cylinders allows higher nozzle pressures and more complex system designs. This both increases system efficiency and relaxes design constraints when laying out and installing the system. For example, the extinguishing agent storage containers can be installed at a substantial distance from the protected area.

#### Advantages

- Less than 15 seconds between the start of the extinguishing process and the fire actually being put out
- More consistent and homogeneous atmosphere in the room
- Ability to construct complex systems

#### Applications

Slow-spreading electronic fires:  
computer rooms  
telecommunication systems  
electrical switching rooms  
electrical distribution rooms  
underfloor cavities for cables

Less suitable for flammable fluids and gases.

#### Sinorix™ 1230: Extinguishing system with

**Novec™ 1230**  
Fire Protection Fluid\*

#### Operating principle

The Sinorix™ 1230 combines the latest generation of chemical extinguishing agents with the high pressure extinguishing system design (42 bars). The nitrogen is used to transport the gas to the individual nozzles, where it evaporates rapidly, creating a homogeneous atmosphere in the room. A single Novec molecule decomposes into 18 atoms when exposed to the heat of a flame. This results in a slightly reduced concentration of the extinguishing gas needed in comparison to HFC227ea.

#### Advantages

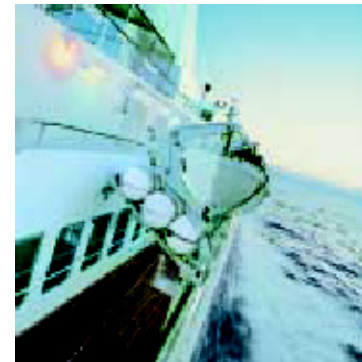
- No risk of personal injury
- Efficient extinguishing performance due to 42 bar technology and high nozzle pressures
- Faster than extinguishing systems using natural gases, extinguishing agent release in less than 10 seconds
- High environmental compatibility (GWP = 1/ALT (half-life) of 3 to 5 days), no effect on the ozone layer (ODP = 0)
- Extinguishing agent storage takes up little space as consumption is very low
- Low extinguishing agent concentration needed
- Pressure-free transport of the extinguishing gas
- Possible to use existing piping systems, e.g. when upgrading Halon 1301 systems
- Modular design option using multiple extinguishing agent storage containers in the protected area

#### Applications

Slow-spreading electronic fires:  
computer rooms  
telecommunication systems  
electrical switching rooms  
electrical distribution rooms  
underfloor cavities for cables

Less suitable for flammable fluids and gases.

\* Novec 1230 Fluid is a registered trademark of 3M™



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