

ExAct fire protection for hotels



Application

Design and supply of an automatic fire detection and extinguishing system for the protection of different areas in a hotel

Special requirements for fire protection in hotels

Hotels are challenging environments in terms of fire protection. Firstly, there are a lot of different areas in a hotel: restaurants, bedrooms, technical rooms etc. These areas require different kinds of fire protection solutions. Secondly, hotel buildings are getting taller – fires in high-rise buildings can not be effectively extinguished from outside. Thirdly – and most importantly – hotels are responsible for the safety of a large number of people, both hotel guests and staff. The safety of people should be guaranteed at all times in all areas, even in higher storeys. How can a hotel manage to do that?

Fire protection must begin inside the building where the fire originates. Fire extinguishing activities must be started immediately after a fire is detected, much earlier than fire fighters can reach the building.

The different areas of a hotel – lobbies, bedrooms and suites, conference and meeting rooms, restaurants, shops, fitness centres, kitchens, car parks, technical rooms etc. – contain a lot of materials that are easily ignited. Examples of such materials include textiles, paper and plants. Fires may start, for example, from defective electrical equipment, deep fryers, smoking in hotel rooms, or from car parks. But more and more often, fires are caused by arsons or terrorist attacks.

Burning materials produce toxic fire gases. Conventional fire extinguishing systems (sprinklers) start extinguishing the fire when the temperature has reached circa 60°C. At this point, people may already have died from inhalation of toxic fire gases. Sprinklers are good and effective extinguishing systems, but not necessarily fast enough to save lives.

Solution

Bearing in mind the diversity of areas in a hotel, Mikro-Pulssi Oy has an all-in-one system concept to offer: the **ExAct fire detection and extinguishing system**. The core of the system is **ExAct FP-200 – an automatic fire alarm and extinguishing control panel**. Using ExAct FP-200 as the control panel and combining it with the desired system components, all areas in a hotel can be protected effectively. **Fast detection and exact extinguishing provide improved safety for people and effective protection for the interior of the hotel**. The ExAct FP-200 control panel can effectively manage fire detection, alarm, extinguishing and system controlling functions in **even 200 separate extinguishing areas simultaneously**. Each area is equipped with fire detection and fire extinguishing equipment, selected with regard to the specific characteristics of the protected area.

Bedrooms and suites



Considering the safety of hotel guests, bedrooms constitute the most important area to protect in a hotel – especially at nights when the guests are sleeping. When the guests know that their bedrooms are protected from fire by an automatic fire detection and fire extinguishing system, they can feel safe and comfortable, and fully enjoy their stay.

Potential fire hazard: Bedroom fires are typically caused by careless smoking or electrical appliances (television, hair dryer, refrigerator).

Solution: A fire detection and extinguishing system composed of an **ExAct FP-200** control panel, smoke detectors, and a high pressure water mist system provides an effective solution for fire protection in hotel bedrooms. The control panel receives signals from the smoke detectors connected to it. If smoke is detected in a bedroom, an alarm will sound and wake up people in the room and in the neighbouring rooms. Water mist will be discharged long before the formation of deadly fire gases, and the rooms can be escaped safely. Fire damage can be limited to a restricted area, and other hotel guests are not disturbed by the incident. Compared to conventional sprinklers, a high pressure water mist system consumes only a small amount of water and, resultingly, does little or no damage to the interior materials. After a discharge, an extensive clean-up is not required.

ExAct fire protection for bedrooms and suites

- **Main system components:**
 - **ExAct FP-200** fire alarm and extinguishing control panel
 - Smoke detectors
 - Sounder beacons
 - High pressure water mist system
- **System benefits:**
 - Increased safety of people
 - Reduced water damage to interior materials
 - Fire damage limited to one room only
 - Low water consumption
 - Little clean-up



Kitchens

Potential fire hazard: In kitchens, the fire often starts in a deep fat fryer and spreads into the ventilation duct.

Solution: By choosing **ExAct FP-200** as the control panel and by combining it with the desired gas extinguishing system, fires are quickly brought under control. If desired, the FP-200 control panel can be programmed to automatically turn off ventilation and air-conditioning systems, transmit alarms to the fire brigade, and switch off the power supply to electrical equipment before extinguishing the fire.



ExAct fire protection for kitchens

- **Main system components:**
 - **ExAct FP-200 fire alarm and extinguishing control panel**
 - Automatic gas extinguishing system (selection of most suitable gas extinguishing agent)
- **System benefits:**
 - Exact directing of the gas flow – minimal disturbance to the operation of the kitchen
 - Automatic alarm transmission, turning-off of ventilation, switching- off of electrical equipment

Public areas: restaurants, lobbies, meeting rooms, shops, fitness centres, car parks etc.

Potential fire hazard: Flammable material that may be found in public areas includes litterbins, paper, textiles, plants, and cars (in car parks).

Solution: By selecting detectors that are most suitable for the area to be protected, and by connecting the detectors to the **ExAct FP-200 fire alarm and extinguishing control panel**, fast detection will be achieved in each area. When the control panel is combined with an effective fire extinguishing system employing the latest technology, for example high pressure water mist, fires are suppressed rapidly and effectively in each area.



ExAct fire protection for public areas

- **Main system components:**
 - **ExAct FP-200 fire alarm and extinguishing control panel**
 - Selection of the most suitable detectors and extinguishant for each area
- **System benefits:**
 - Increased safety of people
 - Fast detection
 - Limited smoke and water damage

Technical rooms: computer rooms, machine rooms (lift, air conditioning)

Potential fire hazard: In technical areas, fires are typically of electrical origin. Electric motors or UPS devices are common causes of electrical fires. Electrical equipment may produce a short circuit, or overheat, resulting in a fire.

Solution: **ExAct FP-200 fire alarm and extinguishing control panel** together with **ExAct gas extinguishing system** provides an effective combination for the protection of technical areas. Typical detectors used in technical areas include smoke detectors and aspirating detectors. For every area will be selected a gas that is most suitable for the area in question. The alternatives are argon, carbon dioxide, or Novec 1230. The gases do not damage electrical equipment. They are electrically nonconductive, noncorrosive, and they do not leave any residue to clean up. After a discharge, the fire extinguishing system can be recharged and be back in operation within hours.



ExAct fire protection for technical rooms

- **Main system components:**
 - **ExAct FP-200 fire alarm and extinguishing control panel**
 - Smoke detectors, aspirating smoke detectors
 - Selection of the most suitable gas
- **System benefits:**
 - No damage to electrical equipment
 - No clean-up after a discharge
 - System quickly back in operation after a discharge

End result

The **ExAct** fire detection and extinguishing system offers an effective, functional and safe solution to the fire protection needs of any hotel.

The main system component is the **ExAct FP-200** fire alarm and extinguishing control panel that manages the operation of the fire detection and extinguishing system. The other system components - fire alarm, detection and extinguishing equipment etc. - are selected with specific regard to the characteristics of the protected areas. The system is individually tailored for each application. For this reason, it is possible to take into account specific requirements, such as aesthetic requirements, in system design.

ExAct fire detection and extinguishing system

Main system components:

- **ExAct FP-200** fire alarm and extinguishing control panel
- Selected alarm devices, detectors and extinguishing agent(s)
- Individual system design
- Additional features

Core benefits:

- Increased safety of people
- Minimal material damage

Core features:

- Rapid detection
- Effective alarm
- Exact extinguishing