

Branch solution

Hotels

HOTEL

Fire Protection Solutions  
for Hotels

*Cool down.  
Fire Protection by*

**MINIMAX**

# PROTECTION

## and safety of persons – safety and comfort

The growth trend in the hotel industry continues unabated. New hotels are being constructed all the time. Attractive locations in central areas and creative concepts, in particular, are crucial for eventual success. Hotel guests often pay attention to an appealing hotel architecture and the ecological operation of a hotel. The safety of a hotel is beyond doubt vital and must also be ensured in case of a fire.

A high incidence of people is characteristic for hotels. Since people stay in the rooms during daytime and at night, their safety must be ensured around the clock. In particular in attractive inner city locations, hotels are often built across many floors. This results in special requirements for fire protection, as turntable fire ladders, for example, are not appropriate for the rescue of guests and personnel in high-rise buildings.

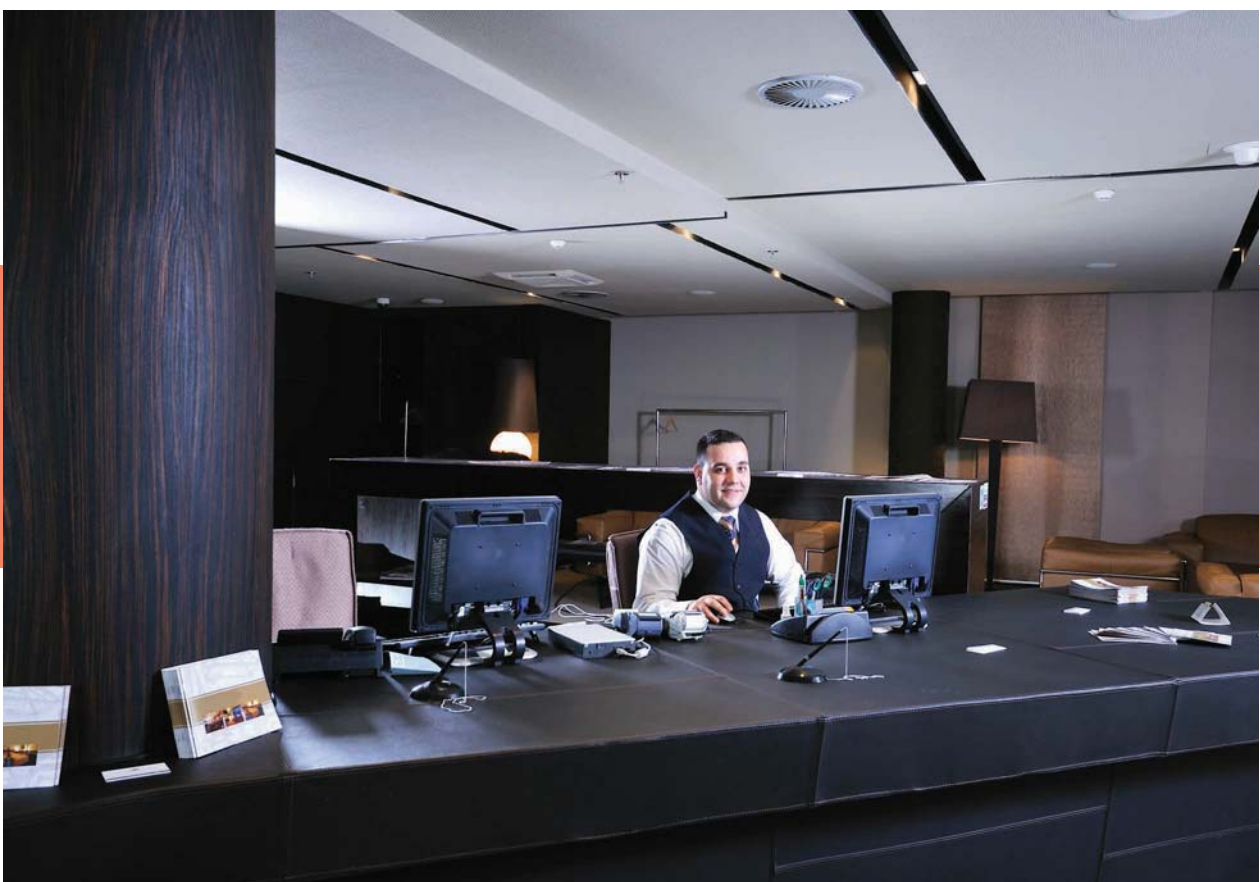
A broad range of risks which may give rise to a fire exists. Careless smoking in hotel rooms is one of the most common causes of fire. Continuous lighting can lead to overheating and trigger a fire. In addition, technical defects in service areas, e.g. building automation rooms or emergency generators, may cause a fire.

Especially in hotels in high-rise buildings, fires often have devastating consequences. Fires can spread very quickly and uncontrollably due to a flashover. On top floors, the safety of persons is especially at risk as escape and rescue routes are

long and may be blocked. Whether a prolonged downtime or total loss - the consequences of a fire are often devastating for hotel businesses.

To avoid such scenarios, we will help you identify fire risks at an early stage and take appropriate measures. This we warrant by strict compliance with applicable guidelines, the use of tried and tested components and systems, as well as planning and installation by qualified staff of our certified company. We are a leading supplier of comprehensive fire protection solutions and will design and install fire protection solutions that are tailor-made for your hotel to fit perfectly into your overall architectural concept.

In doing so, we also ensure the sustainability of your project and install energy-efficient fire protection solutions. With a comprehensive range of services, we will of course also provide at any time support for you and your facility management even after the installation of the fire protection system.



# FIRE PROTECTION

## Fire Protection Systems Recommended by Minimax

	<i>Sprinkler systems</i>	<i>Deluge systems</i>	<i>Minifog water mist systems</i>	<i>Hydrant systems</i>	<i>Oxeo inert gas extinguishing systems (Ar/N<sub>2</sub>)</i>	<i>MX 1230 fire extinguishing systems (Novec™ 1230)</i>	<i>KS 2000 kitchen protection systems</i>	<i>Smoke and heat venting systems</i>	<i>Fire detection systems</i>
Hotel rooms	●		●						●
Offices, hallways and conference rooms	●		●	●				●	●
Atriums	●	■		●					●
Wellness areas	●		●						●
Shops	●			●					●
Parking areas	● <sup>3</sup>		●	●				●	●
Kitchens	●						●		●
Archives	●				●				●
Storage rooms <sup>1</sup>	●			●					●
Building automation rooms	●				●	●			●
Server rooms <sup>2</sup>					●	●			●
Vertical ducts	●	■							●
Waste disposal	●	■		●					●
Emergency power generators	● <sup>3</sup>		●						●

<sup>1</sup> For large storage areas and other types of storage facilities, see our specialist publication "Fire Protection Solutions for Warehouses and Logistics Centers".

<sup>2</sup> For large server rooms and data centers, see our specialist publication "Fire Protection Solutions for Data Centers".

<sup>3</sup> Only room protection

# ON SOLUTIONS

## for hotels

Optimal fire protection in hotels requires tailored solutions for every area of application to ensure comprehensive safety of persons and prevent devastating losses following business interruptions. As a supplier of comprehensive fire protection systems, Minimax can rely on a unique range of tried and tested, innovative fire protection systems and components. Those systems and components meet the manifold needs of a hotel and can be joined very effectively and economically into a total solution.

### ● Sprinkler systems:

#### Universal protection

Sprinkler system detect and report fires and automatically initiate the extinguishing process with water. The underlying principle of selective extinguishing makes them extremely effective: In the event of a fire, only the sprinklers located in the immediate proximity of the fire will be activated. Immediate extinguishing action using water is taken, while the remaining sprinklers remain closed. Sprinkler systems provide reliable fire protection for buildings and industrial plants. For special fire risks, a film-forming foaming agent can be added to the extinguishing water to increase the extinguishing effect.

### ■ Deluge Systems:

#### Fast, with overall coverage

Deluge systems are triggered hydraulically, pneumatically or electrically and disperse water throughout the entire protection zone with open nozzles. In this way they reliably fight fires in rooms and facilities, even if a particularly fast spreading of the fire is to be expected. If necessary, a film-forming foam agent can be added to the extinguishing water. Deluge systems are also installed to keep the fire from spreading to neighboring areas by means of water curtains, or to cool down particularly vulnerable areas through irrigation.

### ● Minifog Water Mist Systems:

#### Extinguishing with water mist

Minifog water mist systems disperse the extinguishing water very finely through special nozzles and sprinklers and/or increased operating pressures. At the same time, the overall surface of the extin-

guishing water is increased, enabling it to absorb heat and evaporate faster. The related cooling and smothering effect makes it possible to fight fires in a particularly effective way with a reduced consumption of extinguishing water. Diverse system variants, customized for each application, ensure optimal protection for buildings, rooms and facilities.

### ● Hydrant Systems:

#### Be prepared for action

Wall hydrants and external hydrants are only the visible end of a reliable extinguishing water supply for manual extinguishing action by fire departments, operator personnel or building occupants. They are visible extension of reliable water supply components designed to fit with local conditions, such as pump systems, underground pipework and filling and drainage stations. These components ensure a reliable supply for safe hydrants.



\*Offices, hallways and conference rooms

### ● Oxeo Inert Gas Systems:

#### Residue-free fire extinguishing

Oxeo inert gas extinguishing systems fight fires by introducing inert gases, such as argon or nitrogen, and the resulting lowering of the oxygen content. They are particularly suitable for protecting areas with high quality and sensitive equipment, where residue-free extinguishing - without the use of water, foam or powder extinguishing agent - is to be preferred. Argon and nitrogen are natural constituents of the ambient air and, moreover, non-toxic and non-electrically conductive.

### ● MX 1230 systems:

#### Efficient and compact

MX 1230 fire extinguishing systems fight fires using the chemical extinguishant Novec™ 1230 by 3M™. This extinguishant is neither corrosive nor electrically conductive. It is thus especially suitable for protecting rooms containing electric and elec-

tronic equipment. MX 1230 systems extinguish fires without leaving residue, while offering a high level of personal and environmental protection at the same time. They are particularly suitable for the protection of small and medium-sized rooms, and the extinguishing agent can be stored compactly, either inside the room or in another area.

### ● KS 2000 Kitchen Protection Systems:

#### Fighting burning fats

Kitchen fire protection extinguishing systems are designed for use in commercial kitchens. Pneumatic fire detection elements respond reliably as soon as the threshold temperature is reached and activate the system. This means that fat fires are already suppressed in their initial stages with the hygienically safe Febramax-S extinguishing agent developed specifically for this purpose. Finely dispersed, it forms a barrier layer over the oil or fat and thus cuts off the oxygen supply. Re-ignition of the fire is prevented by cooling the fat down and interrupting the power supply to the kitchen appliances.

### ● Smoke and Heat Venting Systems:

#### Clean air and an unobstructed view

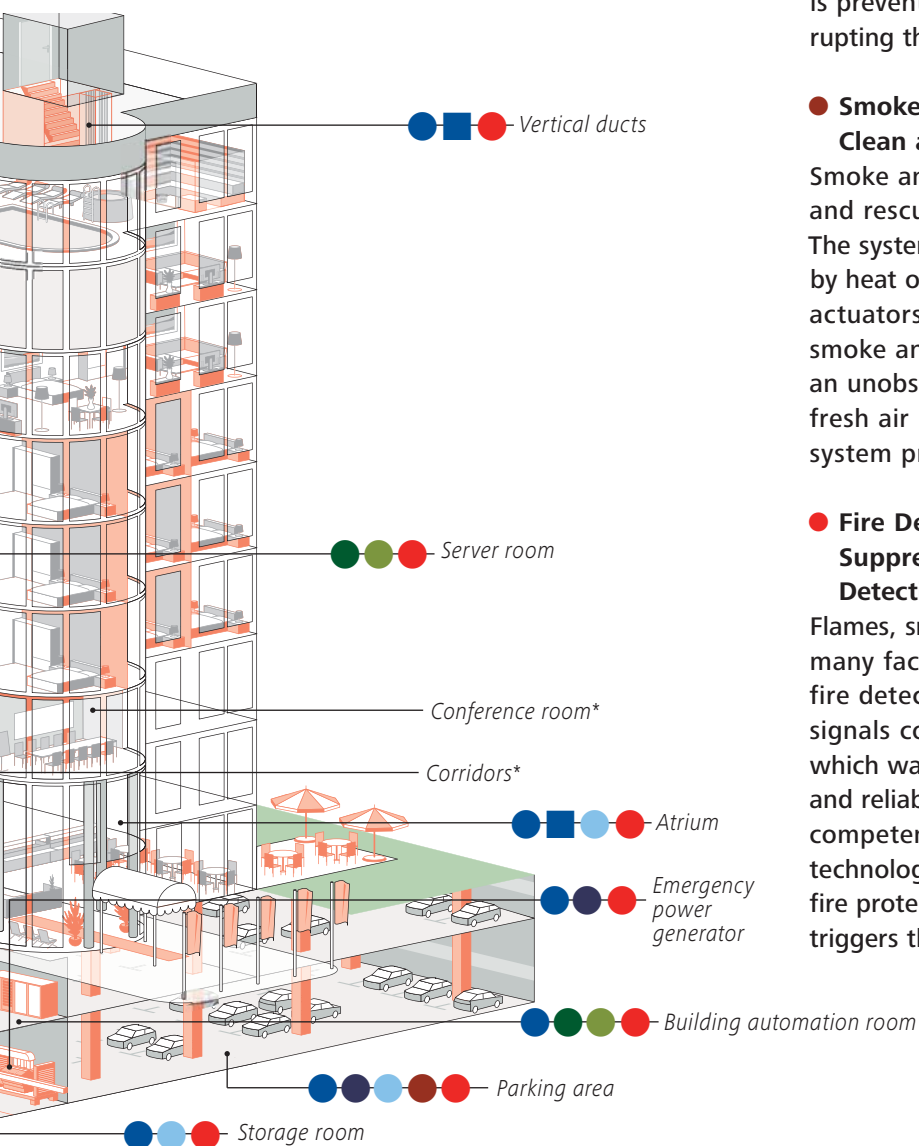
Smoke and heat venting systems keep escape and rescue routes open in the event of a fire. The system is triggered manually or automatically by heat or smoke detectors. Pneumatic or electric actuators open skylights, windows or other smoke and heat venting systems. This ensures an unobstructed view and orientation as well as fresh air in the event of a fire. In addition, the system prevents explosion-type flash overs.

### ● Fire Detection Systems and

#### Suppression Control:

#### Detecting fire hazards and reacting accordingly

Flames, smoke, gas emissions, heat – fire has many facets. Minimax has the right detectors and fire detectors for every kind of manifestation. All signals converge in the fire alarm control panel, which warns people at risk and the fire department and reliably provides all relevant information to the competent bodies. In addition, the fire detection technology controls and monitors in many cases all fire protection systems in the object and electrically triggers the extinguishing systems.



# SYSTEMS AND

ideally suited for fire

The broad variety of areas typically found in hotels requires system variants and components adapted to each case. There is a particular demand for reliable fire protection systems which are compact and light on resources, which fit ideally in the overall architectural concept of a hotel and provide the necessary protection against accidental activation.

**Efficient in hotel rooms, hallways, offices and garages:**

## **Minifog EconAqua water mist systems**

By using innovative low-pressure water mist technology, the Minifog EconAqua water mist system



offers particularly effective protection for buildings.

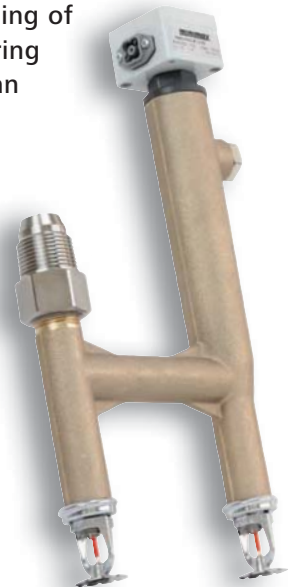
Compared with conventional sprinkler systems, the EconAqua system uses up to 85 percent less extinguishing water and thus reduces water damage to a minimum. This also means that the EconAqua pump room can be designed in a considerably more

compact form than conventional sprinkler pump rooms. This saves space, on-site costs and makes the Minifog EconAqua water mist system ideal for retrofitting into existing buildings.

room, undercover sprinklers offer new design possibilities while maintaining the same level of efficiency.

## **Double protection: Preaction sprinklers**

Preaction sprinklers consist of a sprinkler unit with two sprinklers that must be opened both before any water can be dispersed. This prevents false activation through accidental damage to a sprinkler. Preaction sprinklers are therefore particularly suitable for protecting areas that are sensitive to extinguishing water, such as archives. They ensure reliable activation in case of a fire and report already the opening of one sprinkler to the monitoring panel. Preaction sprinkler can be installed in wet as well as dry systems.



## **Undercover Sprinklers**

### **The inconspicuous alternative**

Undercover sprinklers are an optimal solution if you want to integrate the extinguishing system harmoniously and inconspicuously in the ceiling. They are always appropriate, when a premium is placed on aesthetics and equipment standards. Mounted nearly flush in the ceiling, and in combination with a surface finish selected to match the



# COMPONENTS

## protection in hotels

### HELIOS AMX5000 Aspirating Smoke Detectors Universally applicable

Helios AMX5000 aspirating smoke detectors detect even minute smoldering fires and can be used almost anywhere. They actively draw air samples from the protection zone and analyze them in a measuring chamber. In addition to a




pre-signal and contamination assessment, the detector also offers the possibility of adjusting the sensitivity in accordance with the unit's use. Minimax aspirating smoke detectors are multi-functional detectors that respond to various fire characteristics through combined measuring chamber systems. Thus, fires are already detected at an early stage.

### Easy remote testing: Zonecheck

Zonecheck is a device for quick and easy testing of flow detectors. The device combines the flow detector and an automatic test device to form a single unit. By pressing the key switch, a function test can be performed by a single person within two minutes. With the Zonecheck operating control panel it is even possible to control and check several flow detectors simultaneously by a central device. If the Zonecheck units are annularly connected to a fire detection control panel, then all incoming messages can be clearly allocated to the various sectors. Each Zonecheck unit can be specifically monitored, evaluated and controlled with this analog addressable technology.

Zonecheck can be used in all cases where a sprinkler system or water mist system is operated with flow detectors. This applies especially to wet sprinkler systems in multi-story or high-rise buildings.



A photograph of a modern hotel corridor. The floor is covered in a carpet with a large, repeating pattern of concentric circles in shades of brown and gold. To the left, there is a glass railing with a metal handrail, overlooking a lower level. The walls are made of dark wood panels, and the ceiling is white with recessed lighting. The overall atmosphere is warm and sophisticated.

Guest rooms, shops, kitchens or parking areas – the areas in hotels that require protection are very diverse. The aim is not only to protect assets, but especially the people who are inside the complex building. Fire protection requirements are therefore especially stringent in the hotel industry. Safety of persons can only be ensured, and extensive damage can only be prevented, if fires are detected and extinguished already in their initial phase.

# HOTEL ROOMS

## no room for fire

Hotel rooms are areas for retreat and relaxation, used by guests mainly overnight. During the day, it is mostly staff who enter the rooms. The demand for comfort and interior design is often very high in these rooms. At the same time, the rooms are already extensively furnished with electric devices, a trend which will still increase in future.

### Risks

Defects in electric equipment, such as air conditioning, water heaters or radios and TVs, may cause a short circuit and subsequently a fire. Not properly extinguished cigarette butts are a frequent cause of fire in hotel rooms. The risk is especially high when smoking in bed.

### Fire protection

Minifog EconAqua water mist systems are a water-saving and compact alternative to conventional sprinkler systems. In hotel rooms, EconAqua can be designed with extended coverage wall sprinklers. In this way, a standard room can be protected against fire with a single sprinkler. Undercover sprinklers are used in cases where the extinguishing system should be integrated particularly inconspicuously into the ceiling.

Fire detection systems supplement Minifog EconAqua or sprinkler system and ensure that an alarm is issued at an early stage.



### Horizontal sidewall sprinklers

To provide effective solutions for the diverse range of fire hazards also due to adaptations to special structural conditions, Minimax sprinklers are available in several versions with special spraying characteristics. Horizontal sidewall sprinklers are a perfect solution for rooms where the sprinkler piping cannot be installed along the ceiling or in a false ceiling for structural reasons. In deviation from the customary arrangement of sprinklers, these sprinklers are installed on the wall and aligned horizontally. Horizontal sidewall sprinklers have a particularly high triggering sensitivity and a typical spray pattern with extended coverage.



# OFFICES, HALLWAYS

## and conference rooms – dependable protection

Office and conference rooms are used mainly during the day by employees and guests. Conferences and meetings are held in conference rooms, where the hotel's service staff offer supporting services, while back office staff work in separate office rooms. Hallways lead through the entire hotel and serve as main traffic routes for all persons present in the building.

### Risks

A mere defect in a beamer or other technical conference equipment is sufficient to start a fire. Technical defects in computers or copying machines present a particular fire risk in offices. In hallways, overheated lighting systems or short circuits in automation systems, for example, may cause a fire.

### Fire protection

Minifog EconAqua water mist systems offer compact, water-saving protection and can be connected to an existing sprinkler system. In higher rooms, sprinkler systems provide dependable fire protection.

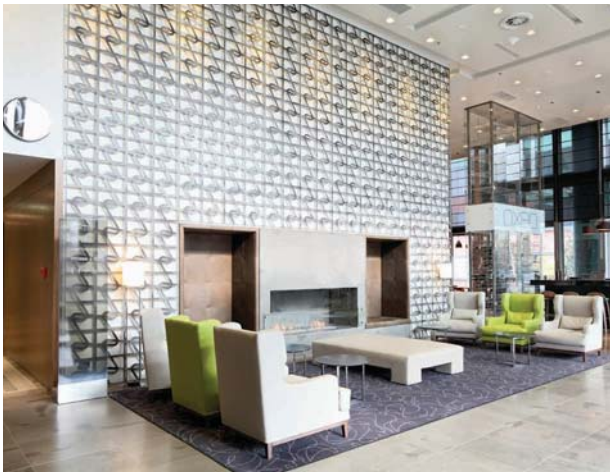
Fire detection systems supplement the Minifog EconAqua water mist system or the sprinkler system and ensure that an alarm is triggered at an even earlier stage. Wall-mounted hydrant systems allow for fast manual extinguishing action. Smoke and heat extraction systems ensure that escape and rescue routes remain clear.



# ATRIUMS

## safe control of fire risks

Entrance halls or lobbies are representative focal features of hotels. They are often designed as an atrium. Some atriums extend over the entire height of the building and are flooded additionally with light from above through a glass dome. In most cases, the central location of the atrium connects this area with almost all other areas and levels of the building.



### Risks

Defective lighting facilities or electric devices, such as computers at the reception desk, may lead to overheating and short circuits and thus start a fire. Event-specific or seasonal decoration, e.g. candles, presents an additional risk of fire.

### Fire protection

Automatic extinguishing systems are indispensable in atriums due to their specific construction and dimensions. In general, sprinkler systems are used for fire protection in atriums.

In spaces with a ceiling height of more than 15 m, deluge systems offer reliable fire protection. In these cases, the extinguishing system is triggered automatically by a fire detection system with linear smoke detectors.

Wall-mounted hydrants are a useful supplement for manual firefighting.

### Linear Smoke Detectors

consist of an infrared transmitter and an infrared receiver in the same device. They guide a clearly defined beam to a reflecting prism. If the beam passes through smoke, the intensity of the beam is reduced. The infrared receiver registers the loss of intensity. If the intensity drops below a previously defined limit value, an alarm signal is then transmitted to the fire detection control panel. Linear smoke detectors are particularly suitable for protecting rooms with a very high ceiling, where the use of other detector systems would be too costly and complex, or where they cannot be deployed for technical reasons.

# WELLNESS

## areas – fire-proof relaxation

Wellness is generally associated with well-being and recreation. Wellness areas of hotels therefore enjoy increasing popularity. They can differ widely in size and amenities. Depending on the hotel category, wellness areas can range in size from a small space with a sauna or whirlpool to a large separate spa area with a gym, solarium and swimming pool.

### Risks

Especially defects in major electricity consumers, such as sauna heaters, solariums or exercise machines can easily set off a fire. They are often surrounded by furnishings made of wood, plastic or foam. These materials are conducive to a rapid spreading of the fire.

### Fire protection

The compact, water-saving Minifog EconAqua water mist system is particularly suitable for fire protection in wellness areas. This system can be connected to an existing sprinkler system. In higher-level rooms, sprinkler systems provide dependable fire protection. The sprinklers can be selected and installed in accordance with the ambient conditions. A special variant of preaction sprinkler is available for example for saunas. The triggering temperature of this "sauna sprinkler" is considerably higher than that of conventional sprinkler bulbs. To protect the sprinkler heads against accidental damage, they can be fitted with a cage.

A fire detection system complements the sprinkler system and ensures an even timelier alert.



# SHOPS

## fire-proof shopping

Many of the larger hotels feature a broad variety of shops, such as tailors, boutiques, hairdressers and jewelers, on the ground floor. These areas mostly have a very high standard in interior design, often in combination with elaborate lighting installations.



### Risks

Short circuits in permanently running demo items or in the lighting installation may cause fires. Due to the broad variety of materials used here, fires can spread very quickly.

### Fire protection

Sprinkler systems are particularly suitable for fire protection systems in shops. Attractive in design, yet unobtrusive, undercover sprinklers can be used to protect shops. These sprinklers fit harmoniously and inconspicuously into the overall design of the ceiling. A fire detection system complements the sprinkler system and ensures an even timelier alert.

Wall-mounted hydrant systems allow for immediate manual extinguishing action.



# PARKING AREAS

## dependable fire protection for underground garages

Hotel guests particularly enjoy the convenience of nearby parking. In downtown locations, parking can often be provided only in the form of multi-story underground parking garages due to the lack of space.

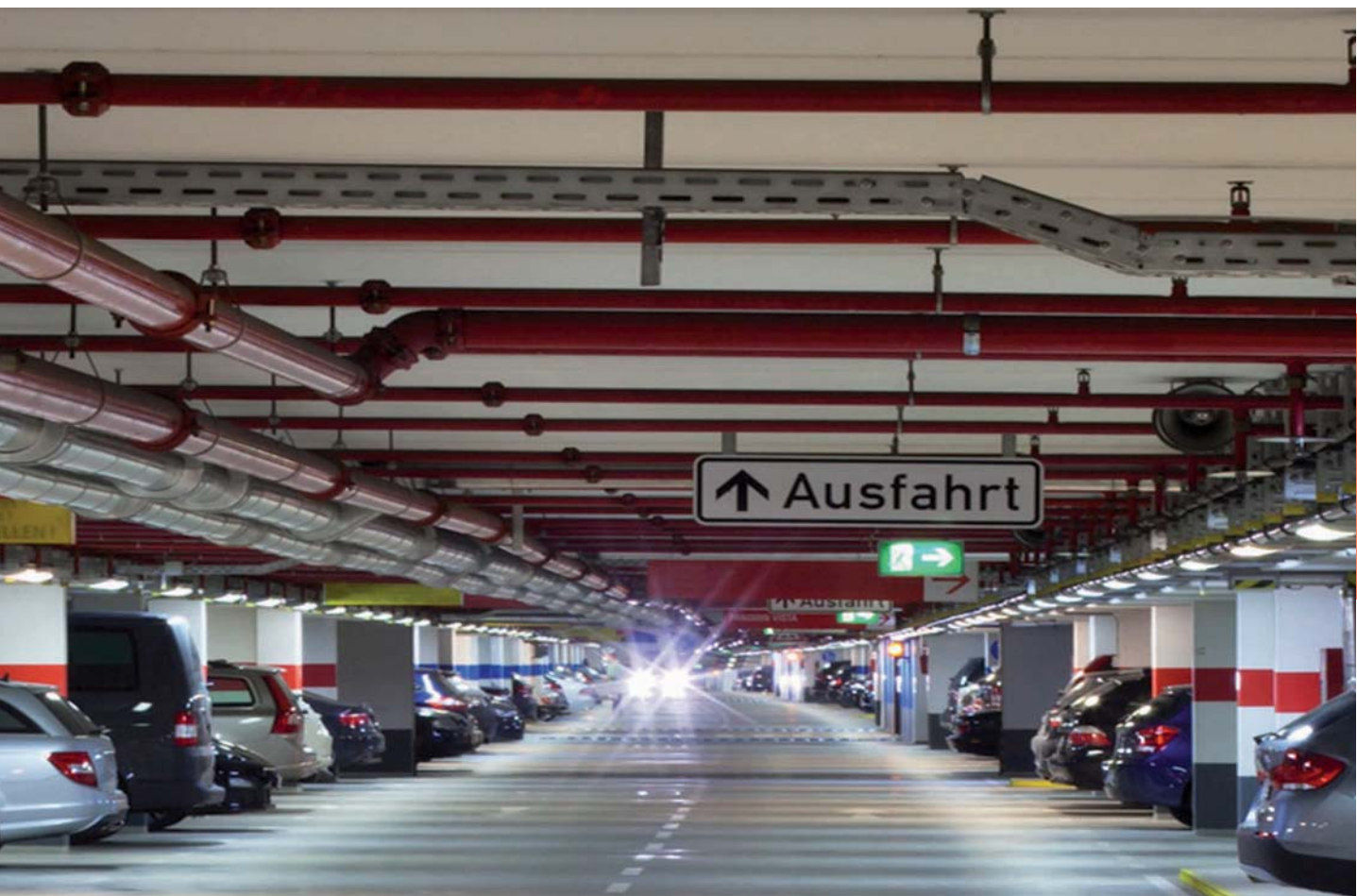
### Risks

Technical defects in parked vehicles, careless smoking or arson frequently causes fires. The materials used in motor vehicles are particularly conducive to the rapid spreading of a fire. The development of smoke in underground garages is particularly dangerous for people.

### Fire protection

Minifog EconAqua water mist extinguishing systems offer water-saving and compact fire protection in underground garages. Sprinkler systems are a dependable alternative in spaces with high ceilings. Both systems can be used as dry systems even in areas exposed to frost.

Fire detection systems supplement the Minifog EconAqua water mist system or the sprinkler system and ensure that an alarm is triggered at an even earlier stage. Wall hydrant systems allow for fast manual extinguishing action. A smoke and heat extraction system keeps escape and rescue routes clear.



# KITCHENS

## a quick end to fat fires

Almost every major hotel has at least one restaurant with a dining room and adjoining large kitchen. In the kitchen, food is prepared, cooked and often kept heated until it is ready for serving.

### Risks

Overheated roasting and grill oven tops, incorrectly operated devices and technical defects in electric devices present a fire risk. Large quantities of fats and oils often used in kitchens substantially increase the fire hazard.

### Fire protection

Conventional sprinkler systems offer dependable room protection in kitchens. Fire detection systems complement sprinkler systems and ensure that an alarm is triggered at an even earlier stage.

The KS 2000 kitchen protection system offers additional local protection for cookers and deep fryers. This system extinguishes already an incipient outbreak of fire within seconds, using the special Febramax-S extinguishant to fight even fat fires.



# ARCHIVES

## secure and fire-proof information



In many hotels, documents and information collected in paper files or data carriers are stored in separate archives. Modular or mobile racks ensure transparent storage and rapid access to specific information if required. As a rule, the ceiling height is used as efficiently as possible in archives.

### Risks

Documents stored close to hot ceiling lights may catch fire very easily. Technical defects in devices, e.g. motors of electric mobile racks, may cause short circuits and eventually trigger a fire.

### Fire protection

As a rule, sprinkler systems are used in archives to provide the necessary safety. The use of preaction sprinklers prevents unintentional activation of the extinguishing system through accidental damage to a sprinkler.



Oxeo inert gas extinguishing systems effectively prevent water damage to the archived materials. Moreover, they are also an ideal solution if the space between the top shelf of the rack and the ceiling is too narrow for sprinklers. Oxeo inert gas extinguishing systems are activated by a fire detection system using HELIOS AMX5000 aspirating smoke detectors.

# STORAGE ROOMS

## fire-proof storing and stocking



Storage rooms in hotels are used to store a broad range of various materials. Consumables for daily hotel needs, e.g. laundry, toiletries or office supplies, are frequently stored there. Other storage rooms may contain light bulbs, fuses and cleaning agents or tools, machinery and EDP equipment.

### **Risks**

Carelessly discarded cigarette butts are the most common cause of fires in storage areas. Short circuits in distributor boxes or cable trenches often lead to smoldering fires. These risks are compounded substantially by the concentration of stored items in narrow confines.

### **Fire protection**

Sprinkler systems are the most widely used type of fire extinguishing system for storage facilities.

Fire detection is ideally complemented by a fire detection system, to ensure that an alarm is triggered at an even earlier stage.



# BUILDING

## automation rooms – always ready to run

Building automation rooms are an absolute key element for the orderly operation of a hotel. In addition to the switch and control panels of the elevator system, these rooms also accommodate safety-relevant building automation systems, e.g. overpressure control, which serve to keep escape routes clear in case of fire. These systems are particularly sensitive and must run without interruption - this is an essential requirement to ensure that the hotel can operate without a problem on all floors of the hotel.

### Risks

Overheated ventilators, compressors and cooling units increase the fire risk. A short circuit in electric components may easily set off a fire.

### Fire protection

Building automation rooms can be dependable protected with a sprinkler system. Accidental activation of the extinguishing system is nearly impossible when preaction sprinklers are being used.

In cases where a particularly high degree of availability is required – e.g. the switch and control panels of elevators in a high-rise building – it is best to use Oxeo inert gas extinguishing systems or MX 1230 fire extinguishing systems for residue-free extinguishing action.

In this case, a fire detection system with smoke detectors or the HELIOS AMX5000 smoke aspirating system controls the Oxeo or the MX 1230 fire extinguishing system.



# SERVER ROOMS

optimally protected data



Server rooms are an important, sensitive element of hotels. Here, data of great significance for the operation of the business are saved, managed and shared through a network. Hence the irretrievable destruction of data, for example due to a fire, has far-reaching consequences for the temporary operation of a hotel, or even for the entire future of the business.

## **Risks**

Insufficient cooling can lead to overheating of the technical equipment in server rooms and cause defects such as short circuits. This may result in a fire, and even small fires in server rooms may often lead to substantial damage, even up to the total loss of data.

## **Fire protection**

For small and medium-sized server rooms, the MX 1230 fire extinguishing system offers an economical solution. It extinguishes fires residue-free with the innovative Novec 1230 extinguishing agent and requires very little space. For larger server rooms, Oxexo inert gas fire extinguishing systems are a suitable option.

A fire detection system activates the extinguishing system. Optionally, very finely tuned HELIOS AMX5000 aspirating smoke detectors can detect fires already at a very early stage. In this way, countermeasures can be taken even before the extinguishing system is activated.

# VERTICAL

## ducts – safely preventing the spreading of fire

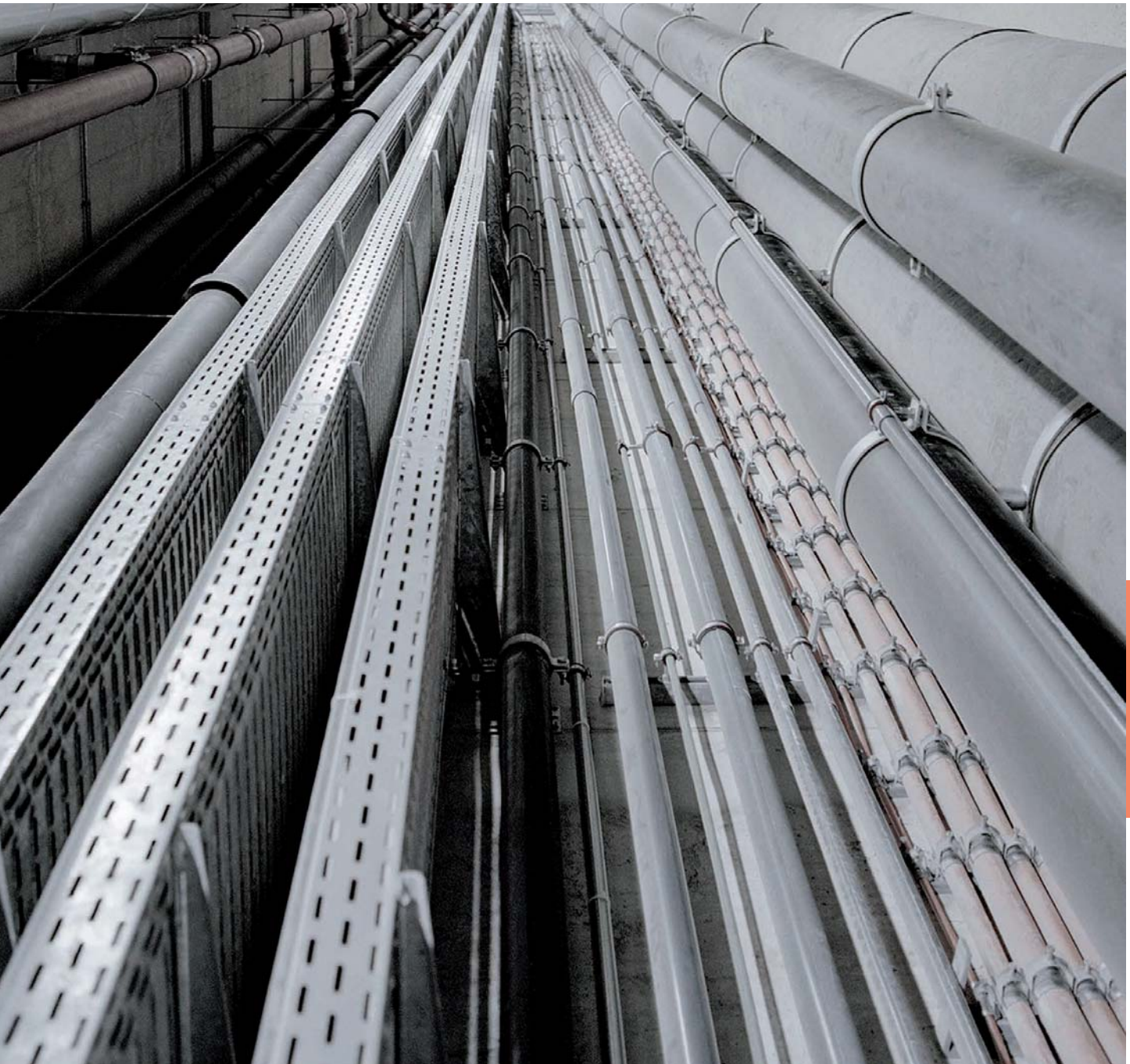
The extensive technical equipment in hotels requires numerous power and data cables as well as pipelines. These cables and pipelines run in bundles in vertical ducts. The supply lines branch off at every floor. The vertical ducts offer protection against damage and serve at the same time as decorative paneling.

### Risks

Considerable strain on power cables may lead to a short circuit and cause a fire. Draft air and vertical alignment of the shaft are conducive to a chimney effect especially in high-rise buildings and thus contribute to the rapid spreading of a fire to other levels.

### Fire protection

Vertical shafts can be reliably protected by fire sprinkler systems. For shaft heights of more than 15 m, deluge systems are used. In this case, a fire detection system with punctiform smoke detectors serves to automatically activate the extinguishing system.



# WASTE

disposal – fire hazards safely avoided



Hotels typically generate a significant amount of waste, which is collected in separate waste and waste disposal facilities. Trash compactors are sometimes used to reduce the volume of the waste. The waste is stored in containers inside or outside the building.

## Risks

The storage of highly combustible organic material, for example from food waste, may cause spontaneous combustion under insufficiently ventilated conditions. As often large volumes of waste are collected in confined spaces, these areas are characterized by a substantial fire hazard. Not infrequently, fires are also caused by inadvertently discarded cigarette butts.



## Fire protection

Fires caused by organic waste and packaging materials can be extinguished with sprinkler systems. Outdoor areas can be integrated in a sprinkler system, in which case a dry system or alternatively a Minimax PipeGuard Antifreeze system can be used as protection against frost damage. If large amounts are stored, a deluge system with open nozzles is better suited. Fire detection systems ensure that fires are detected rapidly and activate the extinguishing system. Wall-mounted hydrants complement the overall fire protection system.



# EMERGENCY

## generators – power supply also in case of fire

Some hotels also have backup generators housed in separate rooms. During a power outage, the generators ensure a continued supply of power, keep the business operation running and prevent financial damage due to an operation failure.

### Risks

Emergency generators often use diesel as fuel. Diesel leaking due to a technical defects may ignite on the hot surfaces of the combustion engine. Likewise, lubricating oil leaking uncontrollably can easily ignite on hot surfaces.

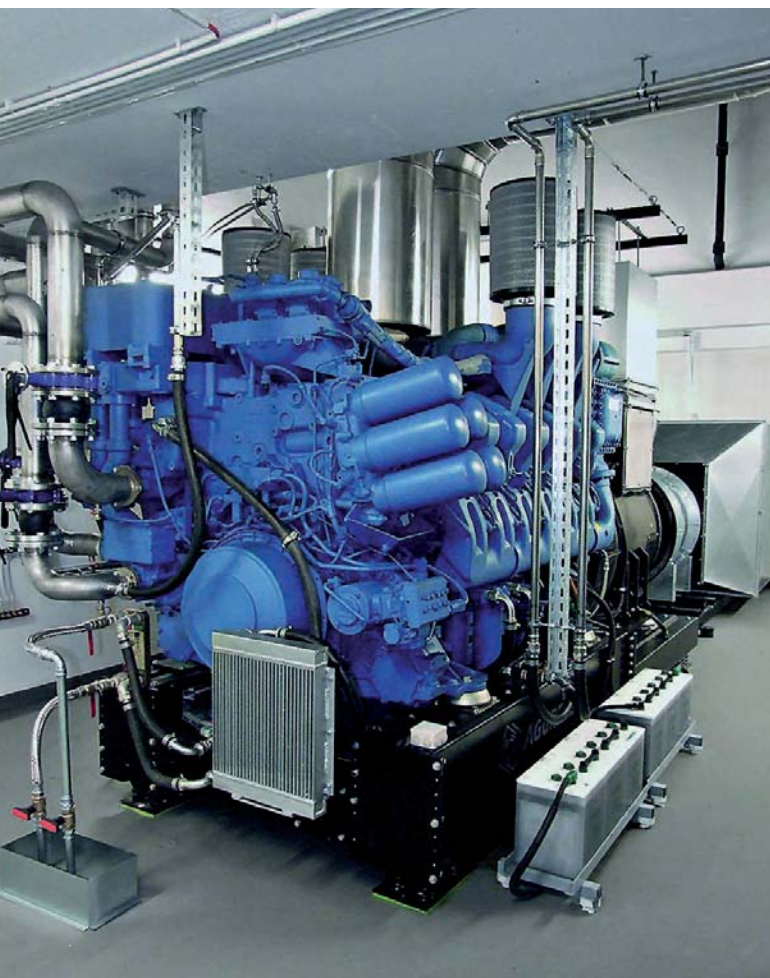
### Fire protection

A sprinkler system provides dependable fire protection for premises where an emergency generator is installed. Minifog ProCon water mist systems offer ideal local protection for an emergency generator. These systems can be connected to the sprinkler system and fight fires quickly and efficiently through the use of open fine spray nozzles.

In this case, the extinguishing system is activated by means of a fire detection system with UniVario flame or heat detectors.



**UniVario industrial fire detectors** are intelligent fire detectors which respond to infrared or ultraviolet radiation or to heat. Thanks to their modular design and use of the latest signal processing technology, these devices meet individual specifications in an extraordinarily wide range of applications. They can be used indoors as well as outdoors, and can be directly integrated into a loop.



### Minifog ProCon systems

are based on the innovative low pressure water mist technology. Extinguishing water is finely sprayed through special ProCon nozzles. The resulting cooling and suffocation effect makes it possible to reduce the water consumption by up to 70 percent compared to conventional deluge systems. This means that the system can be designed with a smaller water supply and smaller pipelines – thus saving cost and space.



# FIRE DETECTION

## and WinGuard

### Fire detection and extinguishing control panel FMZ 5000: Optimum overview and high flexibility

The centerpiece of active fire protection in a hotel is the fire detection and extinguishing control panel, where all signals of the fire detectors converge. Maximum flexibility is offered by the FMZ 5000 fire detection control panel: thanks to their completely modular design and freely programmable controls, they are sure to meet the requirements of just about any project.

The FMZ 5000 panel controls alarm devices and transmits alarm notifications to a permanently staffed post and to the fire department. In addition, the FMZ 5000 can activate fire extinguishing systems and electrically control other fire protection devices. Furthermore, the FMZ 5000 enables communication with risk control and facility management systems and is able to communicate with other internet-enabled devices using web interfaces.

### WinGuard: Safety at a glance

The WinGuard risk management system graphically visualizes the current status of the monitoring points in a transparent and user-friendly interface on a PC or smartphone. A detected fire will be displayed immediately on the monitor along with additional information on the location of the detector. WinGuard is an ideal monitoring device especially for large and complex



building structures. At the same time, the software transmits incoming messages by text message or email directly to previously defined recipients. In addition, extensive supplemental information and helpful tips relating to the various messages are supplied to the users, thus providing assistance and support for launching and carrying out the necessary measures.

Hence WinGuard is an indispensable tool for any well-organized facility management. The Minimax WinGuard software has numerous interfaces to allow integration of fire detection control panels of different manufacturers.



# STRUCTURAL

## fire protection and extinguishers

### Structural fire protection

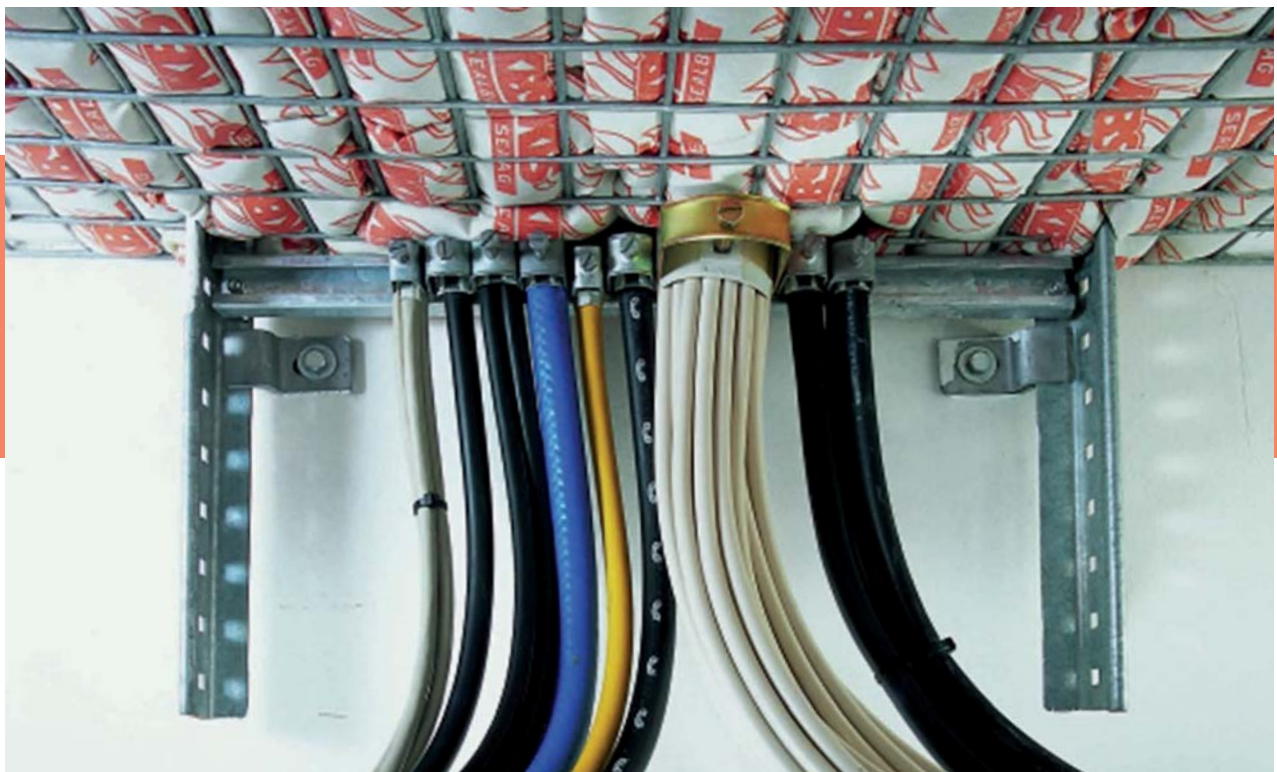
Structural fire protection helps to prevent and spatially contain fires, and to secure escape and rescue routes in case of fire. This is achieved by dividing the building into different fire zones to spatially limit the spreading of fire and smoke for a defined period of time. Structural fire protection measures are implemented for each fire zone. For example, according to specific building regulations in Germany, gaps must be closed with fire and smoke doors, fire protection gates and fire-resistant glass. Partitioning products close wall gaps securely, and fire-resistant coatings reliably protect steel constructions against the effects of fire.

### Fire extinguishers

In case of a fire, a rapid reaction of the attendant persons is important. The easy-to-use, singlelever controls of Minimax fire extinguishers allow even untrained users to operate the devices without any problems and leave no room for operating error.

Every fire extinguisher is ready for action as soon as the lever is pressed. Minimax's selfdeveloped extinguishing agents ensure particularly efficient and abundant extinguishing.

Minimax produces a full range of portable fire extinguishers, e.g. powder extinguishers, water extinguishers, foam extinguishers and carbon dioxide extinguishers. The portable fire extinguishers for fire classes A, B, C, D and F cover all potential types of application in hotels.



# MINIMAX

## Technologies – Solutions – Services

Minimax has been one of the leading companies in fire protection for more than 110 years. We provide solutions which are tailored to suit your fire protection needs. Qualified and certified professionals plan and install modern fire protection systems - throughout the world. With a comprehensive range of services, we also provide assistance after installation of the fire protection system.

### Technologies

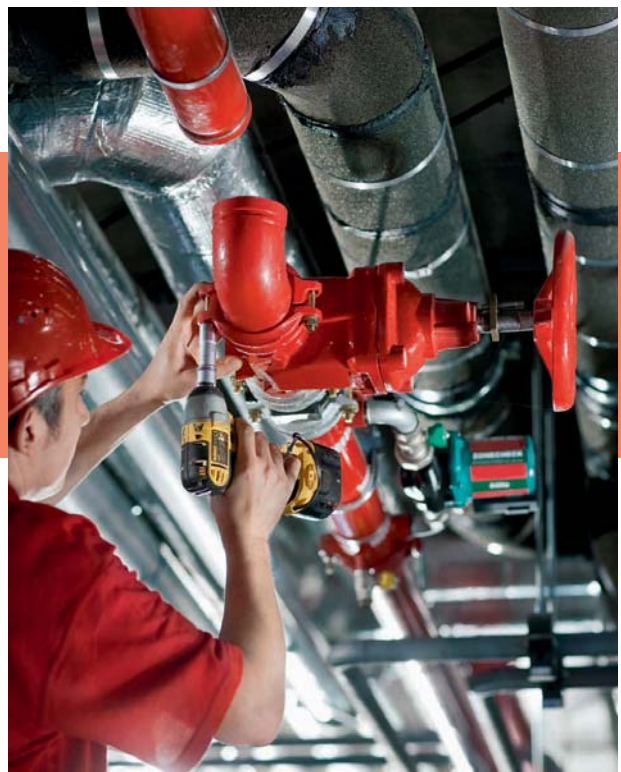
Whether sprinkler systems, gas-based suppression systems, fire prevention systems or fire detection systems – Minimax can draw from a unique range of tested and certified components and systems from our own development and production facilities. Our claim: Minimax quality from straightforward fire extinguishers to complex extinguishing systems. Intensive development work carried out in our own fire protection research centers ensures that we will be able to rely on innovative solutions well into the future.

### Solutions

Automotive or power plants, points of sales or meeting facilities, ships or logistics centers – each sector, each property and each application requires different fire protection solutions. Our teams of experts have many years of experience and accompany each project individually, taking into account existing policies to meet the demands of authorities, insurers and operators. From the engineering of the fire protection system, through project management to installation and commissioning, you are always on the safe side with Minimax.

### Services

Regular inspections and maintenance are a prerequisite for maintaining the proper functionality of a fire protection system in the long term. The Minimax service team offers the necessary safety through professional execution of all inspection, maintenance and repair works. In addition to maintenance, we offer specific measures and programs to ensure that your fire protection systems continue to function correctly and correspond to the latest technological developments even after many years on standby.



# EXPERIENCE

gained in renowned fire protection projects

Many companies have already put their trust in us. Minimax has implemented numerous fire protection projects in hotels for decades.

## TRUST OUR LONGSTANDING EXPERIENCE

Some of our reference projects:



Kempinski Hotel Atlantic  
Hamburg



Steigenberger  
Frankfurter Hof



Hotel Mandarin Oriental  
Munich



Kameha Grand  
Bonn

Some of our partners:



## Overview of our fire protection solutions for hotels:

Sprinkler systems  
Deluge systems  
Minifog water mist systems  
Hydrant systems

Oxeo inert gas extinguishing systems  
MX 1230 fire extinguishing systems  
KS 2000 kitchen protection systems  
Smoke and heat venting systems

Fire detection systems  
Structural fire protection  
Fire extinguishers  
WinGuard risk management

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### Photos

Kempinski, Hotel Atlantic  
Steigenberger, SHR Frankfurter Hof  
Hotel Mandarin Oriental, Munich  
Kameha Grand Hotel, Bonn  
Fotolia

Subject to technical modifications