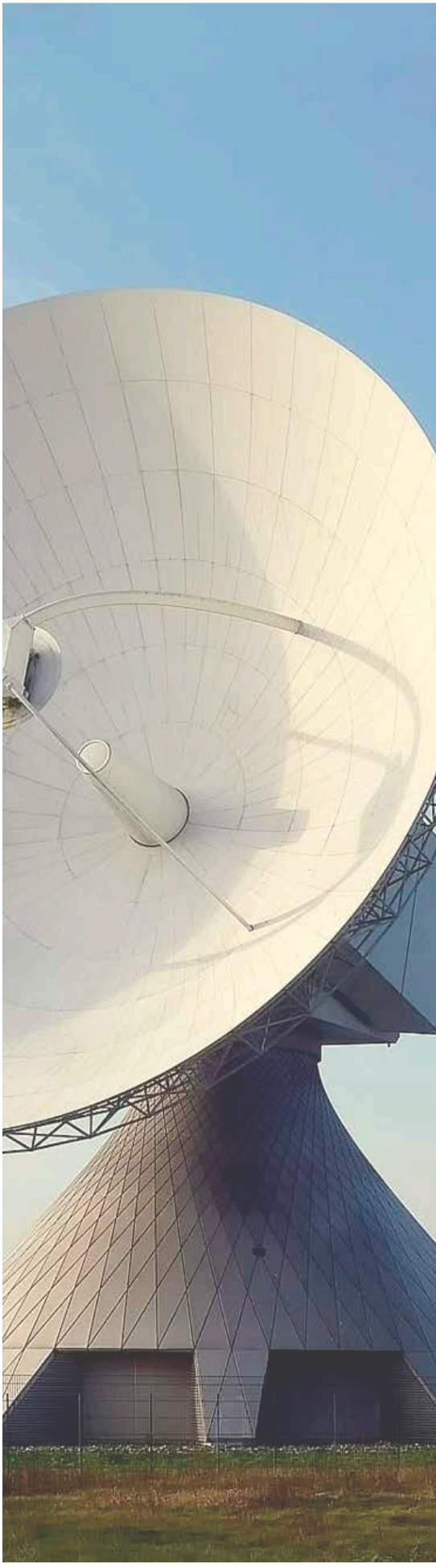
SPECIAL HAZARDS
PROTECTION

AUTOMATIC FIREFIGHTING SYSTEMS IN

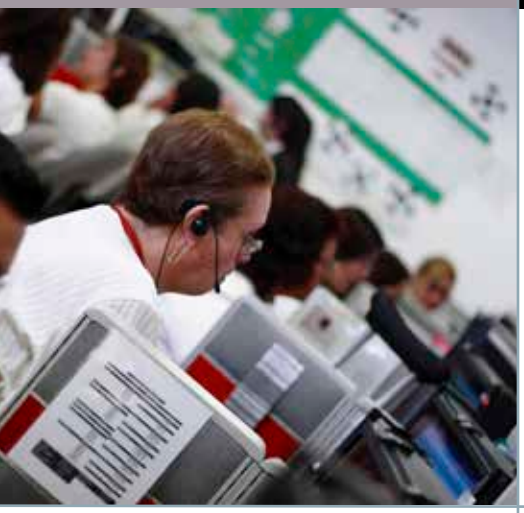
TELECOMMUNICATION CENTRES



SIEX HC

SIEX INERT

SIEX WATER MIST SYSTEM



Hazard type

THE SIZE AND COMPLEXITY OF THESE INSTALLATIONS IS VERY VARIABLE, SO THE PROTECTION IS ANALYZED AND ADAPTED IN EACH CASE.

Technology is a fundamental pillar form many businesses today. A network failure (telephone or internet connection failure) can leave a company completely paralyzed, and losses can be substantial. Technology working successfully must be one of our main concerns.

Ensuring safe operation of the system's technology is vital for all telecommunication service operators. These centres are responsible for monitoring networks, alarms and other places that require special attention. Faults in energy, alarm systems and other events are controlled and recorded from the telecommunication centres. The work of many people depend on these centres functioning properly.

SIEX is aware of this problem and therefore provides optimal fire protection solutions for the entire telecommunication network infrastructure, both in the landline and mobile networks.
In case of fire in appliances, these should be turned off reliably, to prevent loss of data, after which the extinguishing process should begin.

Certain fire detectors act immediately, which helps our special extinguishing systems to quickly turn off, even the most sensitive devices, leaving no residue in the initial stage of the fire. You can thus prevent further, more expensive damage from difficult-to-extinguish fire.

Sources of fire

How can a fire occur in a system? Possible causes of fires include surges, overheating, induction, short-circuits, sabotage, vandalism, operator error or simply negligent handling of electrical equipment, and there are many fire-related damage and consequences.

INTERNAL FACTORS

Sparks caused by switches

Short-circuits

Overloading

Static electricity

EXTERNAL FACTORS

Dirt

Devices that produce heat

Solar radiation

Thermal Environmental Conditions

Special attention should be paid to the refurbishment actions that could be carried out in the room which could be dangerous, such as welding, vehicle traffic and internal combustion vehicles and machines.

Keep in mind that the vast majority of telecommunication centres, especially those of considerable size, often have false ceilings and floors. Wiring—electrical and data—runs through both spaces and they must be protected as spaces which are difficult and inspect visually, being potential sources of fire.

EXAMPLES OF

ACTIVITIES INVOLVED

Imagine a fire in a CRC, or alarm/security panel, where fire, theft alarms, etc. are managed.

A fire in a telecommunication centre like this can be a real problem.

For this reason, it is very important to invest all our efforts into detecting and extinguishing fires in these spaces quickly and effectively.

SIEX recommendations

Telecommunication centres are enclosures usually occupied by staff working continuously in the room.

Telecommunication centres also include CRCs (alarm and continuous monitoring centres) where work takes place 24 hours a day.

The first thing to take into account in choosing protection for these centres is to find a suitable agent for people.

Among the most suitable systems for the protection of these rooms are:

- **INERT-SIEX™**
- **SIEX-HC™ 227**
- **SIEX™ Water Mist System**

The most effective application for the protection of these areas is total flooding.

The area to be flooded is considered to be a closed area without openings so that the extinguishing concentration established can be achieved and maintained.

Total flooding comprises the discharge of a specific amount of gas. This amount of gas is what is needed to achieve the design concentration for class A fires, according to the selected design standard (NFPA, UNE 15004, ISO 15040). This discharge will occur in 10 to 60 seconds (depending on the gas chosen).

If we have to protect various hazards, it may be worthwhile to calculate the amount of agent required for the most unfavourable hazard and use selector valves to save costs.

This system is also compatible with the use of a backup system. In many cases it may be of interest or necessary to have a backup agent system to ensure protection during refilling and/or re-stamping of the main system. It is recommended, for example, when quick refilling is not guaranteed due to access difficulties or if the protected premises are very important and discharge must be guaranteed should the main bank fail.

One of SIEX's recommendations is the use of a continuous weighing system.

Weighing is used to detect pressure loss of the agent when the extinguishing agent content falls below the threshold (5% to 10% of the net load), due to a possible leak or discharge. The weighing device works by dropping a counterweight and, through a limit switch, sending an alarm signal to the control panel.

PROTECTION IN FUNCTION OF THE SIZE

These recommendations are based primarily on the pressure required by the system to ensure proper distribution of the agent throughout the room and the location of the cylinders. Before designing an extinguishing system, it is necessary to know the total size of the enclosure and where the cylinder storage room will be located and, based on this, choose the most suitable gas for protection.

However, the layout and structure of the enclosure is studied in detail, and this can be one of the most important factors.

SMALL ROOMS:

INERT-SIEX™ / SIEX-HC™ 227 (low pressure) / SIEX-NC™ 1230

MEDIUM-SIZED CENTRES:

INERT-SIEX™ / INERT-SIEX™ CONSTANT FLOW TECHNOLOGY

SIEX-HC™ 227 S-FLOW / SIEX-NC™ 1230

The HFC 227 S-FLOW system, featuring storage pressures between 50 and 60 bar, is able to ensure the discharge of the gas at distances that would not be possible at low pressures.

LARGE CENTRES:

INERT-SIEX™ / SIEX™ WATER MIST SYSTEM / SIEX-HC™ S-FLOW

CONSIDERATIONS ARISING FROM THE TELECOMMUNICATION CENTRE ITSELF

The protection system and the agent selected depends largely on the size, shape and arrangement of the room itself.

AGENT TYPE AND QUANTITY

Affects the number of cylinders and storage space required.

AGENT PRESSURE

Depending on pipe length, diameter and runs, will ensure that it reaches the most unfavourable nozzle in the necessary conditions for effective action.

NOZZLE TYPES

Influences: flow, distribution, radial or 180°, open or closed (if water mist), etc.

CYLINDER BANK DIAGRAM

Solutions

WATER MIST

Water mist is especially suitable for protecting electrical-electronic equipment since it avoids one of the greatest risks for this equipment, **smoke**. We have all the protocols useful for system design and approval.

It is the nozzles—designed with the latest technology—which explain the widespread acclaim of our system and on which its effectiveness depends, to ensure effective protection.

MINIMUM SPACE REQUIREMENT
HIGH EXTINGUISHING CAPABILITY
NO CHEMICAL REACTION WITH THE MATERIALS
RAPID TEMPERATURE DROP
PROTECTION OF LARGE AREAS
SMALLER PIPE SIZES
EASY INSTALLATION
EASY MAINTENANCE

IT IS POSSIBLE TO ENSURE THE COMPLETE SAFETY OF THE ENTIRE BUILDING STRUCTURE WITH A SINGLE UNIT

One of the premises of SIEX is to offer the greatest variety of extinguishing agents and systems, addressing the multiple needs of modern buildings. All have been installed in the protection of this hazard and are characterized by:

QUICK RESPONSE
NON-TOXIC
NO RESIDUE
ELECTRICALLY NON-CONDUCTIVE

INERT AGENTS

Obtained from the atmosphere
Low-cost agent
Excellent visibility for evacuation
Storage pressures of 150, 200 and 300 bar
Chemically neutral
Long pipe runs
suitable for occupied areas

Range of equipment with environmentally friendly agents. They make installation cost-effective and are readily available.

IG-01: Argon.
IG-55: 50% argon and 50% nitrogen.
IG-100: Nitrogen.
IG-541: 52% nitrogen + 40% argon + 8% CO_2.

Its high pressure allows the use of long pipe runs and selector valves. It is thus possible to centralize the protection, making it common to the entire building. This translates into a huge installation savings and streamlining of storage.

QUEMICAL AGENTS

Halocarbon gas systems produce the fastest possible extinguishing. Furthermore, users can be assured that a certain amount of HFC-227ea that has not been used for a long time will not under-perform, so it is very stable.

IDEAL FOR OCCUPIED AREAS.
INCREASES THE SAFETY MARGIN
INCREASES THE SAFETY MARGIN
HIGH EXTINGUISHING CAPABILITY
STORAGE FROM 25 TO 60 BAR.
NON-CORROSIVE WITH ELECTRICAL AND ELECTRONIC MATERIALS

Our commitment

CHOICE OF SYSTEMS

SIEX has the widest range of products and systems to suit different needs, both as regards pressures and extinguishing agents.

COMPETITIVE PRICE

Optimizing all of our processes make us more and more competitive worldwide.

SPECIALIZED ENGINEERING

Our highly qualified staff ensure the best service for customers both as regards technical advice on the choice of system, and solving any problems that might arise after installation. Backed up by our extensive experience and a track record of successful projects.

INNOVATION

At the forefront of innovation in every product we develop, ensuring the technical features offered.

QUALITY GUARANTEE

All products meet the highest quality requirements and internationally recognised official approvals.

OTHER SPECIAL HAZARDS PROTECTING BY SIEX:

SERVICE STATIONS
ARCHIVES AND LIBRARIES
DPCs
PAINT SPRAY BOOTHS
ELECTRICAL PANELS
INDUSTRIAL KITCHEN
TURBINES AND GENERATORS
ROAD TUNNELS
NATURAL GAS PLANTS
CLEAN ROOMS
CABLE TUNNELS
TELECOMMUNICATION CENTRES
HOTELS
HOSPITALS
EDUCATIONAL ESTABLISHMENTS
TRAIN AND UNDERGROUND STATIONS
TRAINS
TRANSFORMERS
OFFSHORE PLATFORMS
SOLAR THERMAL PLANTS
MACHINE TOOLS
PRINTING INDUSTRY
HISTORIC BUILDINGS
ROBOTIC PARKINGS
WIND TURBINES
STEEL INDUSTRY
BANKS
OFFICES
LARGE VEHICLES
CONVEYOR BELTS
GAS PUMPS
OIL & GAS
TIMBER INDUSTRY

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