



FIXED EXTINGUISHING SYSTEM  
WITH

# **ELECTRONIC DETECTION**

INDUSTRIAL KITCHEN

**FIRE  
PROTECTION**

# THE IDEAL SOLUTION FOR KITCHENS



Restaurants, hotels and all types of buildings housing commercial kitchens increasingly require specific fire protection that deliver maximum protection against fire. The idea is first to safeguard people and property from these potential sources of fire and, secondly, to ensure an effectively extinguishing that minimizes downtime without compromising the enclosure's cleanliness.

These facilities work with fire in environments where there is an abundance of fuel (gas, oil, grease, etc.). This proximity that can easily cause a fire and spread it, resulting in serious consequences that can spell the end of the business or activity.

The SIEX-KP system can be adapted with total flexibility to any type of kitchen, both old and new. Easy to install and maintain, it protects devices with total reliability 24 hours a day, 365 days a year, ensuring maximum safety for users.

# ESSENTIAL PROTECTION FOR LARGE INSTALLATIONS

SIEX-KP is the ultimate solution to control fires in industrial kitchens. Allows detecting fire and immediately extinguishing it by acting directly and simultaneously on all existing sources, including the hood and exhaust duct, preventing it from spreading and causing further damage.

Extinguishing occurs instantaneously via the discharge of an aqueous solution. This is completely safe and harmless, does not generate breakdown residue or cause damage to cooking equipment. After agent release, affected surfaces can be cleaned and back to normal by simply wiping them with a damp cloth. In just a few minutes (after extinguishing) the kitchen is ready to resume normal operations.

SIEX-KP adapts to all existing elements in the kitchen, effectively protecting high hazard equipment such as stoves, grills, fryers, all types of broilers, salamander stoves, woks, etc. Other spaces are protected similarly (with the same danger level), such as: extraction ducts, hood filters and PLENUMS.

Detection occurs independently using an electronic detection system installed in the fire extinguishing system.

Upon detection and activation of the electronic fire panel, the agent fills the pipes in seconds and is released by the nozzles placed over fire points, covering all protected hazards to safeguard the equipment from possible spread of fire.



The equipment as a whole complies with NFPA-17A and is approved by UL, ULC, and LPCB.



# COMPONENTS



## DETECTION

The detection mechanism makes our SIEX-KP system stand out as it allows you to choose between electrical and mechanical components. The option selected will affect how the firefighting unit is activated, which will be determined by enclosure features.

An ELECTRONIC DETECTION system requires the installation of thermal sensors or Fenwall-type detectors to be connected directly to the ELECTRONIC PANEL.

(These components are not included in the fire protection system)

Activation occurs via a solenoid valve located in the aqueous solution cylinder itself. It is the most convenient and affordable option when the building already has a general installation of this type.

ACTIVATION IS GENERALLY PRODUCED THROUGH THIS SYSTEM, BUT CAN BE RELEASED DIRECTLY WITH A MANUAL RELEASE (SUPPLIED WITH THE SYSTEM) BEFORE THE FIRE IS AUTOMATICALLY DETECTED.

## GAS SHUT-OFF VALVES

When stoves are protected, it is essential to cut the fuel supply so the fire does not re-ignite. This mechanism can be incorporated into the SIEX-KP system in order to close the gas supply after the detection and activation of the system. SIEX offers a wide variety of models to suit different pipe diameters.

## EXTINGUISHING AGENT

It is an aqueous solution of potassium acetate at low pH. When is it activated, the aqueous solution is discharged through nozzles strategically located above the possible fire risks. Hot or combustible surfaces become covered with a sort of saponiferous jelly which cools the oils and greases, isolates the fuel from the air and prevents the escape of flammable vapours. After extinguishing the fire, the areas covered by the agent are cleaned very easily, just as one would clean an ordinary soap.

## CYLINDERS

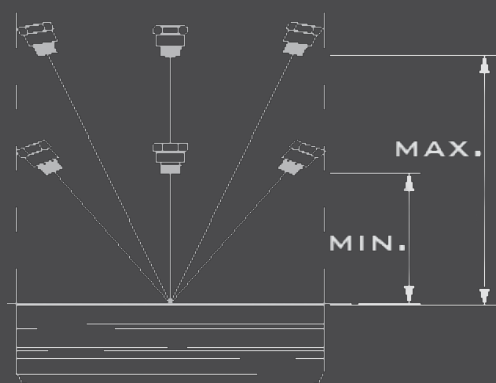
SIEX-KP supplies two bottles with a capacity of 14 and 23 litres, which usually cover all the hazards in a standard industrial kitchen. Larger spaces can be protected by installing the necessary cylinders connected in a bank. A single hood may use up to seven cylinders with a single control panel, allowing for the maximum design capacity.

The extinguishing agent contained in a cylinder or bottle is pressurized with dry nitrogen.

### SIEX-KP

| CAPACITY     | 14 l.     | 23 l.      |
|--------------|-----------|------------|
| FLOW         | de 1 a 11 | de 12 a 18 |
| OUT DIAMETER | 3/8"      | 3/4"       |
| LOAD         | 38.5 Kg   | 50 Kg      |
| CODE         | KSX-14    | KSX-23     |

## NOZZLES



The nozzles are spaced using predesigned piping depending on the discharge flow rate. Each type of hazard has a specific nozzle with a given flow and coverage. For example, there are specific nozzles for fryers, ducts, filters, grills, burners, etc.

The nozzle is installed within a particular range of heights, depending on the specific and characteristic coverage of each nozzle. They must also be pointed precisely in terms of the arrangement of hazard to be protected.

# HOW TO SELECT THE SYSTEM

## EQUIPMENT TO PROTECT

First, the equipment to be protected is analyzed, taking note of dimensions, since this will determine the flow of agent necessary to protect it.

There are three types of hazards to take into account: appliances, hoods with simple or “V” filters and rectangular or circular extraction ducts.

## CHOICE OF NOZZLES

Each protected hazard needs a specific flow and this in turn a special nozzle for each device it connects to. SIEX provides full range of special nozzles for each appliance and its different sizes.

## SELECTION OF CYLINDERS

After calculating the flow required for full protection of the kitchen, selecting the type of cylinder required to cover the hazard is an easy matter.

- **A 14 litre cylinder for flows of up to 11 is sufficient for total extinguishing.**
- **For flows of up to 18, a 23 litre cylinder is the recommended option to protect hazards.**
- **For higher flow rates, cylinders will be added, keeping these same proportions.**



*EACH PROTECTED HAZARD REQUIRES A FLOW RATE THAT VARIES BASED ON THE EQUIPMENT PROTECTED AND ITS SIZE.*

## **TESTING AND MAINTENANCE**

After installing the system, which is extremely simple, the tests for checking that it is properly installed are quick and easy. Ensuring its correct operation is therefore very convenient.

Maintenance is also very easy, thanks to the component and system simplicity, and only minimum training is required.

# BENEFITS

## VERSATILITY

SIEX adapts to the needs of individual protection to optimize components and resources. The system is specifically designed for each project, adapting its detection systems, nozzles and cylinders for each particular case.

## EXTENSIVE PROTECTION

SIEX-KP provides the ability to protect large kitchens, allowing placement of up to 20 nozzles. The detection system can have a cable of up to 37 metres and more than 20 pulleys throughout the enclosure.

## GREAT EXPERIENCE

SIEX's extensive experience in protecting kitchens allows us to advise on all valid options for each project. Our aim is to offer the best protection that allows for uninterrupted operation of your kitchen, safeguarding it from any mishap.

## CLEANING

Upon release of the agent, cleaning is very easy, simply clean the affected equipment in the same way as in a conventional cleaning. The agent is removed without difficulty with a cloth.

## SAFETY

The agent aimed at protecting kitchens is specially designed for these spaces. SIEX-KP poses no risk to either the users or the food being prepared once the agent has been removed, in compliance with the required hygienic and sanitary measures.



# APPLICATIONS

The SIEX-KP system has been designed to effectively protect any type of hazard in the kitchen.

Typical applications are:

- HOODS
- individual and community EXTRACTION
- DUCT
- STOVES
- GRILLS
- FRYERS
- BROILERS
- SALAMANDER STOVE
- WOKS
- ETC.

## **SIEX**

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