



**SIEX<sup>100</sup>**

FIXED EXTINGUISHING SYSTEM

with NITROGEN  
EXTINGUISHING AGENT

**300<sub>BAR</sub>**

**FIRE  
PROTECTION**

# THE SAFEST PROTECTION WITH NITROGEN



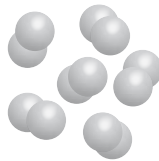
Society is increasingly more aware of the need to protect the environment and therefore demands environmentally friendly products. SIEX therefore offers customers the INERT-SIEX™ 100 system, which uses an environmentally friendly extinguishing agent, Nitrogen, a major component of the atmosphere and which has no adverse effects on the environment.

Linked to this need to take care of the place we live in, this system combines maximum protection with high firefighting efficiency. Moreover, given the high availability of this agent, coupled to its significant firefighting features, the system as a whole is highly competitive.

The use of IG-100 agent—effective for any type of application—ensures a compact, flexible design adaptable to any hazard, suitable for use with selector valves, with the greatest coverage in the market and maximum safety and effectiveness.

# IG-100, ECO-FRIENDLY AND VERSATILE

INERT-SIEX™ 100 uses nitrogen as an extinguishing agent for total flooding of occupied and unoccupied rooms. This gas is the main component of the atmosphere (78%) and is usually found as  $N_2$ , a very stable and unreactive molecule.



**IG-100: NITROGEN**

Molecular weight	28
Density	0,97 (air=1)

It is a abundant agent, and using it is sustainable, effective and clean. It is widely used and recognized for its firefighting effectiveness due to its features, scalability and technical suitability.

It is **ECO-FRIENDLY** since it is obtained from the very air we breathe. As an extinguishing gas, it does **not contribute to global warming (GWP)**, and when it is returned to the atmosphere after simple ventilation, it does **not affect the ozone layer (ODP)**, or have negative effects on the environment.

It is considered a **CLEAN** agent because it leaves no particles after discharge that could interfere with people or objects. It does **not harm electronic equipment or machinery**, does not react with moisture or produce any hazardous compound. It is inert and does not cause corrosion.

It should be noted that it is completely safe for people in the design concentrations. It is **VERY VERSATILE**, effective for a large number of applications. Given its excellent safety and environmental qualities, it can be used with no restrictions.

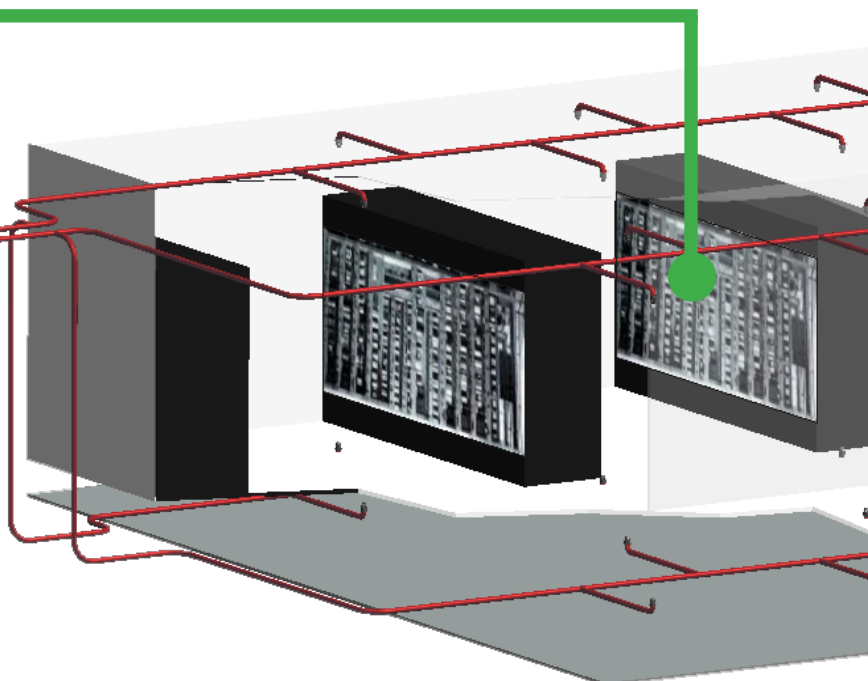
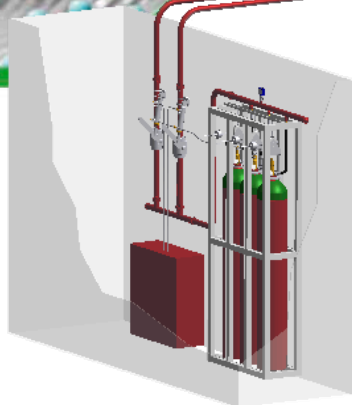
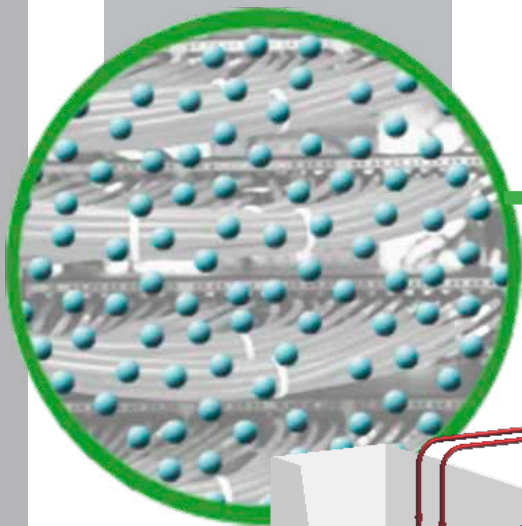
# HOW IT WORKS

## EXTINGUISHING AGENT IG-100

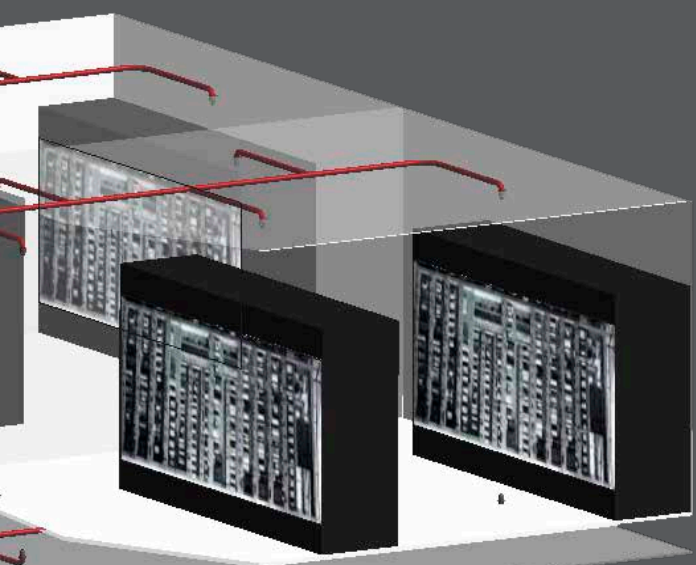
Nitrogen is extracted from the atmosphere and stored as a pressurized gas of high purity (100%). By its chemical properties, most notably its stable molecule ( $N_2$ ), it behaves like an inert agent that is not altered under any circumstances (temperature, storage, handling, humidity, etc.) and does not react to any other compound.

It is stored at high pressure in gaseous state to reduce the size and number of cylinders and thus minimize the space required for the equipment.

To reduce the installation cost, improve safety and increase discharge performance, a single calibrated restrictor is used reducing the pressure to below 60 bar downstream of the cylinder or the cylinder bank. This means that, if necessary, cylinders can be stored far from the protected hazard making it possible to deal with any architectural obstacle.



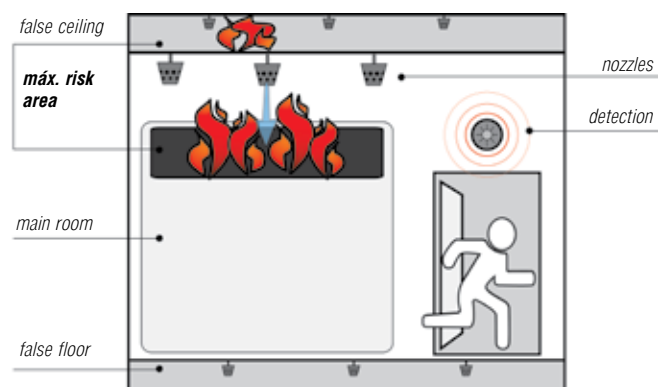
- *Completely ecological and environmentally friendly.*
- *Zero ODP and GWP*
- *Suitable for use in areas occupied by personnel.*
- *Effectively protects the most sensitive equipment.*
- *Completely clean agent leaves no residue.*
- *High extinguishing capability.*
- *Perfect distribution in the protected enclosure.*



## EXTINGUISHING IN HIGH VOLUMES

The IG-100 agent has a slightly lower density than air, so after mixing upon discharge it completely fills the enclosure and tends to remain in its middle and upper area.

Thus, it is suitable for places where there is a risk of fire in any part of the enclosure and especially towards the top, where false ceilings, or agent leakage at the bottom. Likewise, it can achieve great heights and distances thanks to its high storage pressure.



INERT-SIEX™ 100 acts throughout the volume, including all areas of difficult access, which it reaches easily without residue or particles.



## USES

Internationally recognized by EN 15004, IS 14520, NFPA 2001 and CEA 4008 for use in:

- CLASS A HAZARD
- CLASS A SUPERIOR HAZARD
- CLASS B HAZARD
- ELECTRIC AND ELECTRONIC HAZARDS



## EXPERIENCE AND QUALITY AT THE SERVICE OF OUR CLIENTS

SIEX knows the importance of keeping clients informed in all phases of the project with the aim of achieving the best results for the protection of what is most valuable to them. It puts all its experience at the service of its clients.

The INERT-SIEX™ 100 system, the result of extensive and advanced development, complies with the most relevant national and international standards such as ISO 14520:13, EN-UNE 15004-8, NFPA 2001 and CEA 4008.

It holds the most important certifications in the firefighting industry: VdS and FM & UL in addition to other international approvals.

SIEX CERTIFIES EACH  
OF ITS COMPONENTS  
INDIVIDUALLY, AS  
WELL AS THE SYSTEM  
AS A WHOLE.



# COMPONENTS

## CYLINDER VALVE

These valves provide high-flow discharge and are safe and easy to handle. They allow doing work safely on full cylinders, streamlining any operation.

Pressurized at **300 bar**, these units include the RGS-MAM-12-3, high-efficiency valve which can be used for master or slave cylinders. Made out of brass, they are robust to ensure complete safety.

### 300 BAR

CYLINDER	LOAD IG-100	VALVE	HOSE
80 litres	21.00 m <sup>3</sup>	RGS-MAM-12-3	Model FH-20A
140 litres	36.70 m <sup>3</sup>		

*Made of seamless, heat-treated alloy steel. A pilot bottle of N<sub>2</sub> is included for cylinder banks of more than ten units.*

**A wide variety of configurations of storage volumes is available for individual modular cylinders or banks, depending on the enclosure to be protected.**



## CALIBRATED PRESSURE REDUCER

Located downstream of the manifold (cylinder banks) or the discharge hose (modular cylinders), it consists of a disk with a hole in its centre, whose diameter is determined with total precision by a specific software. This simple component reduces the gas storage pressure with total precision, **ensuring smooth discharge** and not requiring highly specialized piping.

The most important parameters for determining this diameter, as part of the hydraulic calculation, include the amount of agent and its storage pressure, the complexity of the distribution network, discharge time, pressure on the nozzles. Provides flexibility in design, allowing the use of complex distribution networks.

## CONTINUOUS WEIGHING

It is a very effective, easy-to-install system: The cylinders hang from this device so that a preset load loss causes movement of a counterweight which triggers an electrical alarm signal. The mechanical operation avoids any contact with the agent and thus reduces possibility of leakage to zero.

The device is factory certified and calibrated, so they can be safely installed with total assurance of proper operation.

## PRESSURE SWITCH

Fitted in the port intended for this device, the pressure switch monitors pressure inside the container. It sends a signal to the fire panel in case of failure. It is also available for explosive environments, in any location.

## PRESSURE GAUGE

Suitable for facilitating a local, accurate and precise measurement of the pressure and thus the cylinder load, thus facilitating system maintenance.

## GAUGE WITH ELECTRICAL CONTACTS

A single device indicates locally the storage pressure at all times and, when the pressure falls below a certain level, sends an electrical signal wherever required.

# APPLICATIONS



*Especial for  
false floors*



*Telecommunication  
systems*



*Computer  
rooms*



*Gas  
facilities*



*Off-shore  
plaforms*



*Hospitals*



*Wind turbines*



*Petrochemical  
facilities*



*Laboratories*



*Electrical cabinets  
and substations*



*Archives  
and libraries*



*Academics  
facilities*



*Pharmaceutic  
industry*



*Museums and  
art galleries*



*Offices*



*Residencial  
buildings*



*Metro stations  
and airports*



*Large vehicles*

*...and many other applications*

# BENEFITS

## OF USING INERT-SIEX™ 100

### 300BAR

- Environmentally friendly gas, extracted directly from the atmosphere.
  - Zero damage to the ozone layer (ODP)
  - Zero global warming potential (GWP)
  - Clean and free of residues, allowing immediate return to business without additional cleaning.
  - Does not damage equipment.
- 
- Total availability worldwide, without brand restrictions.
  - Cost-effective, stable, easy to refill and available at various pressures (150-200-300 bar)
  - Allows for long and complex pipe runs.
  - Comprehensive advice at every stage of the project.
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- Unbeatable ability to flood the entire protected enclosure.
  - Multipurpose: very widespread use as an extinguishing agent
  - Safe evacuation of personnel: good visibility, no-risk design concentration.
  - SIEX quality and safety warranty with international certification.

## **SIEX**

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## **FIRST OPTION FIRE SYSTEMS & BUILDERS INC.**

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