



Protect Your Tomorrow With **SIEMENS Sinorix™**



HART ENGINEERING (PRIVATE) LIMITED
Protecting Assets, Safeguarding Lives

Sinorix high-pressure water mist fire suppression for buildings, industrial facilities and tunnel infrastructure

Siemens is a global supplier of comprehensive fire safety systems, featuring Sinorix fire suppression solutions.

With numerous installations worldwide across buildings, industrial applications, and transportation sectors, we offer our customers an unparalleled competitive edge through uncompromising safety, innovative technology, and proven reliability.

Sinorix systems are designed to suppress and prevent fire hazards with maximum efficiency, protecting lives, assets, and business continuity.

Shaping a safer tomorrow – innovative fire safety solutions for a sustainable future

In today's rapidly evolving world, sustainable and efficient fire protection solutions are essential for addressing modern challenges. Siemens meets them with a comprehensive portfolio of advanced fire suppression technologies, highlighted by the Sinorix high-pressure water mist system.

This innovative system uses high-pressure water mist to swiftly and effectively suppress fires, minimizing damage and offering optimum safety for people and property.

As environmental awareness grows, our fire suppression solutions align with Siemens' sustainability strategy – maximizing safety while minimizing resource use to support environmentally responsible technologies.

A partnership with Siemens means transforming your safety infrastructure with reliable and cutting-edge fire protection technology to enable a safer and more sustainable future.



Advanced water-based fire suppression technology for optimal safety

High-pressure water mist is a technological innovation that improves on traditional sprinklers by turning water into a fine mist for an enhanced fire suppression effect.

High-pressure water mist uses a mist of very small water droplets to control and suppress fires. It is specifically designed to attack fires from two sides - quickly extracting heat from the fire and shielding surrounding areas from radiant heat, while displacing oxygen locally to suppress the combustion process.

Additionally, water mist systems are effective in suppressing various types of fires, including Class A (combustible solids), Class B (flammable liquids), Class F (fires from cooking oil and fat) and fires involving electrical equipment.

When comparing high-pressure water mist systems to traditional water sprinklers, the advantages are as follows:

1. The combined cooling and oxygen displacement provides a cooling capacity up to 7 times greater than traditional sprinklers.
2. The water consumption is reduced by up to 80% compared to traditional sprinklers.

Three reasons to choose SINORIX™ High-Pressure water mist systems



Sustainable protection for people and assets

High-pressure water mist enhances the occupants' safety by providing safer evacuation routes. The reduced use of water ensures the protection of valuable assets from collateral damage and costly replacements.



Minimized water usage and downtime

Compared to traditional sprinkler systems or other water-based systems, the Sinorix high-pressure water mist system requires significantly less water. This reduces the need for extensive cleanup after a fire incident and enables a faster return to normal.



Lower cost for maintenance

All key components of the Sinorix high-pressure water mist system, including multi-axial piston pumps and the piping network, nozzles, and section valves, are manufactured from corrosion-resistant stainless steel, ensuring high quality and a long service life. The pumps use water as a lubricant, making them virtually maintenance-free.

One technology to protect all building types in a city
One system to cover all fire safety applications in a building
One supplier to offer a complete fire protection solution

Data centers



Healthcare facilities



Hotels



Offices & High-rise



Industrial facilities



Educational facilities



Road, metro and rail tunnels



Electric Vehicle Parking



Fire poses risks to lives, assets, and the environment. Sinorix systems provide reliable protection across diverse settings - from museums and industrial sites to offices, universities, and data centers.

With space-saving design, low total cost of ownership, and flexible installation, SINORIX delivers efficient and effective fire suppression tailored to operational and economic needs.



SINORIX™ NXN

Natural Inert Gas Extinguishing Technology

The ideal suppression solution

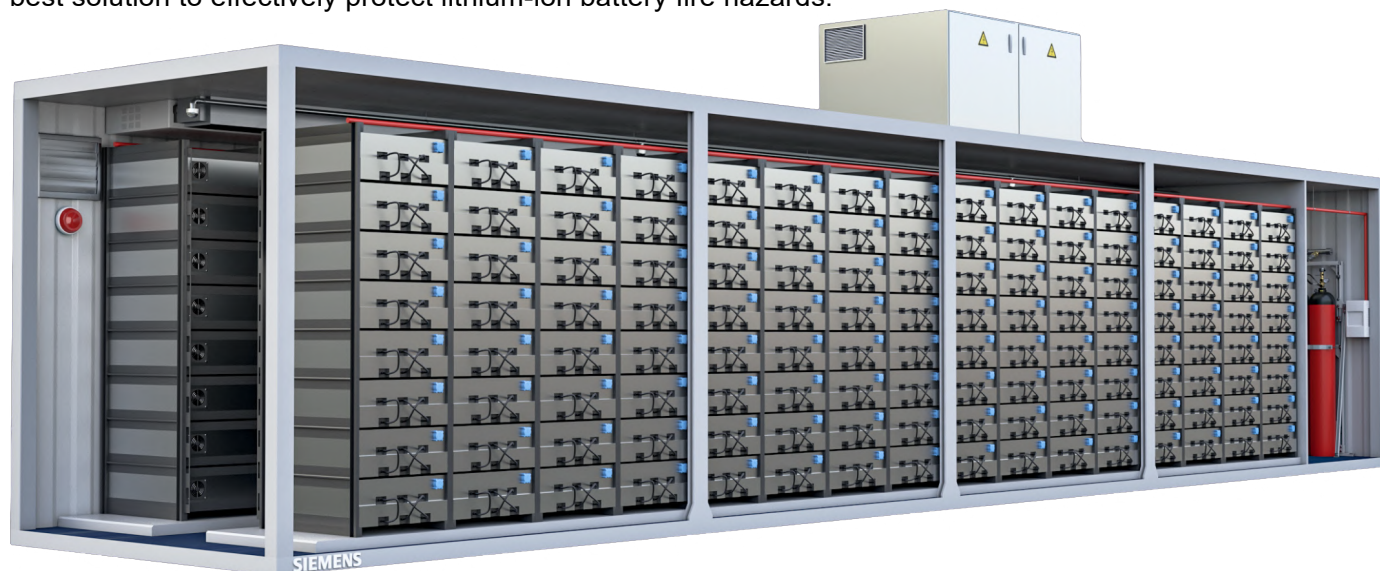
Combine early detection with SINORIX™ NXN N² for total Li-ion protection

Our suppression solution

The SINORIX™ NXN N² pre-engineered nitrogen suppression system is the latest generation of inert gas extinguishing technology from Siemens. This solution combines high pressure nitrogen gas with an easy-to-deploy system.

Why is nitrogen the ideal solution for lithium-ion suppression?

1. To permeate hidden or covered spaces, like a battery rack, gaseous solutions, such as nitrogen, are most suitable. Liquids and powders must be avoided.
2. Only natural extinguishing gases should be considered so that the production of dangerous and/or harmful decomposition agents is avoided.
3. Unlike gases that are extremely dangerous to persons, like CO², nitrogen provides a higher degree of safety since it is abundantly present in Earth's atmosphere (comprising 78% of the air we breathe).
4. SINORIX™ NXN N² is targeted to modern lithium-ion batteries which do not contain metallic-lithium, so it's a cost efficient solution and avoids more costly gases like argon to suppress. Nitrogen suppression is the best solution to effectively protect lithium-ion battery fire hazards.



Fire protection with environmental care

Safe and sustainable Sinorix NXN only uses natural agents and compounds for reliable extinguishing that does not harm the environment.

What is Sinorix NXN?

Sinorix NXN is the latest generation of inert gas extinguishing technology, and completes the Siemens fire safety offering. It is based on the three, natural extinguishing agents, argon, nitrogen and carbon dioxide, and features a completely new mechanical design concept.

Why is Sinorix NXN different?

Sinorix NXN comes with ADV technology – a radically new cylinder valve concept: system design, installation and maintenance are now all simpler, faster and more efficient.

The same set of components is used for all extinguishing agents, making planning, installation and maintenance easier, faster and more flexible.

The cylinder valve can be opened with a lower pressure, which means that just one pneumatic actuator type covers the full pressure range (8–360 bar). Just one type of cylinder valve is used for all cylinders and all actuation types: electric, pneumatic, double pneumatic, and manual.

The valve actuators, such as electric, pneumatic, double pneumatic, and manual are smaller and lighter and can be mounted by hand with minimal force.

All these improvements combined with the new system design mean that installation time is up to 5% less and many fewer mechanical components are needed.

Maintenance is also easier and faster, as the pilot line remains intact during cylinder exchange.

Safe for the environment

Selecting sustainable products that protect the environment is a vital concern for us all. Sinorix NXN uses only agents and compounds, which are found naturally in our atmosphere and do not harm the environment. They are neither subject to any regulatory restrictions, nor do they damage the ozone layer.

Are natural extinguishing agents suitable for every type of application?

In pure form or mixed compounds, natural extinguishing agents provide outstanding properties to combat a wide variety of fire hazards. Their respective traits give Sinorix NXN great flexibility when designing the appropriate fire safety concept.

To be specific, nitrogen is most suitable when protecting critical electrical infrastructure, such as that typically found in switching rooms, energy storage systems or data centers. Argon is the perfect fit for areas at risk of metal fires and for chemical storage rooms. Whereas, carbon dioxide is used in local, unmanned applications, such as oil baths and transformer stations.

Argon, nitrogen and carbon dioxide all follow the EN standards and guidelines and are VdS, as well as CNPP certified.

Typical applications



Data centers and server rooms



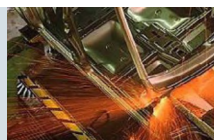
Power distribution/E-houses



Telecommunication systems



Industrial applications



Li-ion battery storage systems



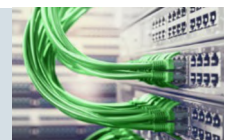
Electrical switching rooms



Gasturbines



Cable ducts



Sinorix NXN natural agent system portfolio

ADVtechnology



Cylinder Valve

- ADVtechnology – Two ports for pneumatic and electromagnetic actuation
- One valve type for all extinguishing agents
- Sealconcept for ports allows pressure-free assembly and disassembly
- Compact
- (Re)filling via discharge port
- Fits under standard protection cap
- Pushbutton to close valve

Check valve and pressure regulator

- One type for all agents
- Incorrect assembly impossible



Electromagnetic actuator

- All functions monitored such as unblocked, blocked, actuator installed
- Blocking with standard padlock
- Actuator cable with LED



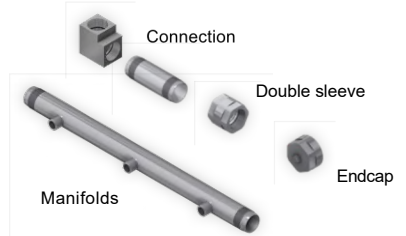
Pneumatic and manual actuator



- Activation range 8–360 bar
- Control line remains intact during cylinder replacement

Manifold

- One type for all PN360 certified
- Connectable by hand (no tools)
- O-Ring sealing



Control and discharge hose

- One type for all gases PN360
- Material: highest flexibility for easy installation (flexible rerouting)



What happens in the event of a fire?

Sinorix solutions extinguish the fire by inertization, i.e. by displacing the oxygen in the room. When activated, natural extinguishing agents eliminate the danger without leaving behind any residue that requires clean-up or disposal. This means that business operations can be rapidly resumed.

A reliable partner at your side for the entire lifecycle of your fire safety system.

Providing extinguishing solutions requires considerable expertise, especially during planning and design.

Siemens provides the latest digital planning and design tools, online product catalogue, system configuration, BIM, Step and DWG data including online ordering process, as well as calculation, planning tools and specification texts.

Furthermore, Siemens design experience and technical support is invaluable to avoid overengineering. Optimal design can greatly reduce project costs as well as ensuring maximum safety.

In addition to local representation, Siemens provides its customers and partners with optimal technical support, via its international competence center. Siemens also has a test laboratory where solutions for new and highly challenging situations are perfected.

The key to a successful fire safety protection system.

A complete fire safety system goes beyond fire extinguishing. Sinorix systems are developed for easy integration in complete fire safety solutions, including fire detection and evacuation.

This integration further increases safety and reduces risks. It also optimizes facility management by enabling cloud-based, digital services.

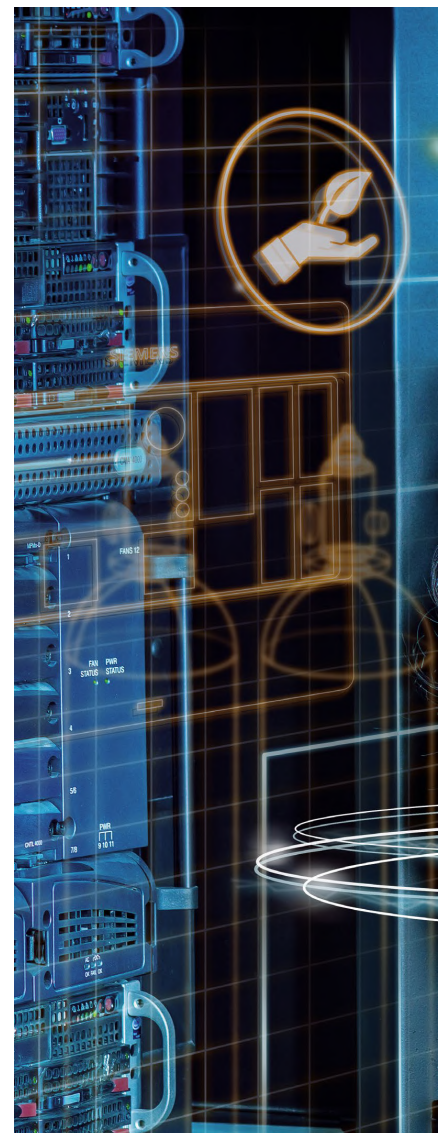
You can rest assured that, by choosing Siemens Sinorix NXN, people, assets, processes and the environment are all perfectly protected.

Smart Infrastructure intelligently connects energy systems, buildings and industries to adapt and evolve the way we live and work.

We work together with customers and partners to create an ecosystem that intuitively responds to the needs of people and helps customers to better use resources.

It helps our customers to thrive, communities to progress and supports sustainable development.

Creating environments that care.
[siemens.com/smart-infrastructure](https://www.siemens.com/smart-infrastructure)



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