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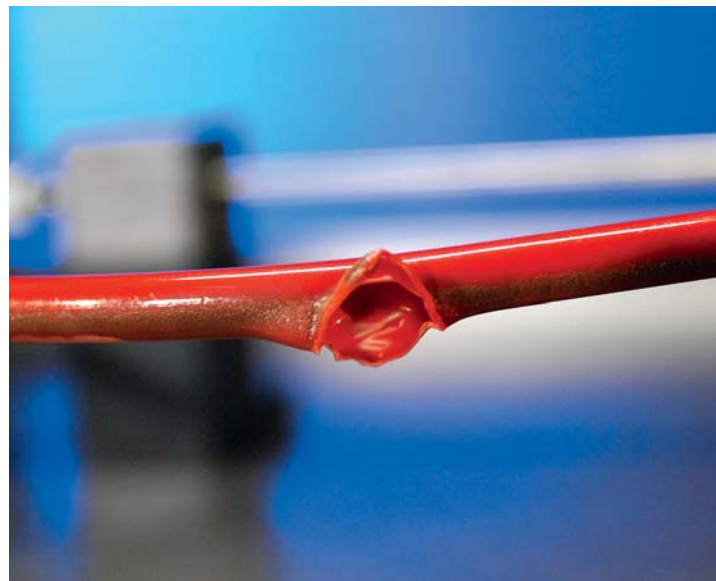


Sinorix al-deco STD – reliable, effective and safe

Intelligent object protection system for machine tools



Sinorix al-deco STD object protection systems have already been installed into several thousand machine tools.



Patented Lifdes sensor ensures correct activation of extinguishing process.

All-around protection for machine tools

The intelligent object protection system Sinorix al-deco STD offers reliable and effective all-around protection for machine tools. The main features include detection and extinguishing without requiring an electrical source, online monitoring and automatic recording of security-relevant functions.

Ensuring business continuity

Machine tools treating hard materials use non-hydrous coolants, such as oil, to cool down heat developments caused by high cutting velocities during operation. The use of oil holds a high risk of fire. In case of a fire incident in such a machine the whole production site is at risk.

Statistics show that approximately 10 percent of all installed machine tools burn within two to five years. Approximately 43 percent of all companies with a major fire incident file immediately for bankruptcy, further 27 percent within the first three years.

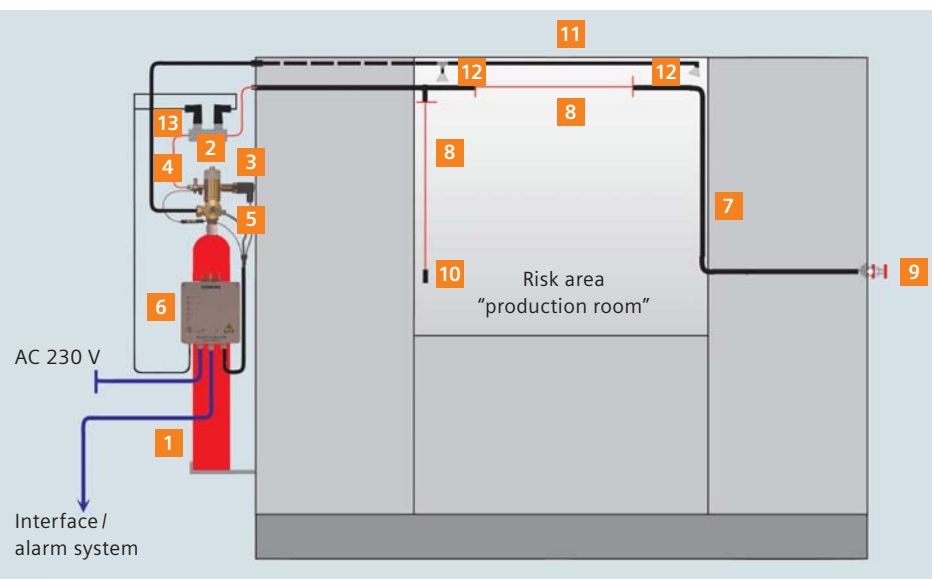
In the event of a fire, valuable machines and infrastructure can be severely damaged. Even worse are the considerable economical disadvantages such as downtimes and thus delivery failures which lead to severe damage to the image or even to the loss of customers. These consequences cannot be insured and might result in a total loss of business at worst. This is why reliable fire safety is essential and most recommendable.

Sinorix™ al-deco STD requires only an investment of about 1.5 to 2.5 percent of the total value of a machine tool and thus is a worthwhile investment in proportion to the damages that could occur.

Intelligent protection of machine tools

The fully automated object protection system Sinorix al-deco STD covers everything from fire detection, alarming, monitoring to extinguishing. The fire detection as well as the activation of the extinguishing process is done pneumatically and is therefore highly reliable. Furthermore, all security-relevant functions are monitored online and indicated as well as recorded in case of an event.

Needless to say, Sinorix al-deco STD complies with applicable international standards and guidelines such as VdS.



Legend key components

- 1 CO₂ extinguishing agent cylinder
- 2 CO₂ valve
- 3 Pressure switch, potential-free
- 4 Ball valve for the activation/deactivation of the extinguishing system (with status monitoring)
- 5 Measuring unit for checking the CO₂ quantity
- 6 Alarm interface
- 7 Detection line, steel
- 8 Detection line, fire sensor Lifdes
- 9 Manual release with pressure gauge
- 10 End stop for detection line
- 11 Extinguishing line for CO₂
- 12 Extinguishing nozzles
- 13 Distribution unit with pressure switch 2 and 3

Sinorix al-deco STD concept example for machine tools.

Reliable detection and extinguishing

At the heart of the system is the patented tube-shaped linear fire sensor, produced with a high-molecular polymer, named Lifdes™ (Linear fire detection source). This sensor is stressed by a pressure of 15 bar. Connected to an extinguishing cylinder via a valve, it is permanently put under this pressure and will burst if its ambient temperature rises above 110 °C. As soon as the sensor bursts, the valve of the extinguishing cylinder is opened and the gas is introduced into the protected area. At the same time, the machine is put on emergency stop. As this happens pneumatically, the sensor is not only insensitive to external conditions such as dirt, water, oil and vibrations, but also to technical interferences such as power outages and deception. As the extinguishing process can only start if the sensor bursts, incorrect activation of the system is virtually impossible.

Comprehensive online monitoring and recording

All security-relevant functions of the Sinorix al-deco STD object protection system are monitored online and indicated acoustically and optically in case of an incident. A connection to an existing fire control panel is possible. The operating data as well as these functions are auto-

matically recorded in a long-term memory and can be read out via a USB interface. Thus, events can be easily reconstructed after an incident and liability issues clarified.

Easy maintenance and commissioning

The need for maintenance is electronically displayed and carried out in accordance with the operating schedule. In addition, maintenance and refilling are easily performed in correspondence with the right technical documentation. The extinguishing agent cylinders can easily be refilled from any gas refilling station.

Effective and environmentally friendly

Sinorix al-deco STD uses the natural gas carbon dioxide (CO₂) for extinguishing, which is most effective for flammable liquids. In addition, it has a high cooling effect and extinguishes the fire by reducing the oxygen volume concentration in the protected area. Compared to chemicals or powder it is also safe for the equipment as it does not leave any harmful residues. Therefore, no cleaning is needed after extinguishing. Natural gases exist in our ambient air and are, for the amount which is needed to extinguish a fire, environmentally friendly.

Highlights

- All-around protection for machine tools
- Reliable fire detection thanks to patented Lifdes sensor
- Pneumatic detection and activation of extinguishing process
- Insensitive to technical interferences, power outages and immune to deception
- Comprehensive online monitoring and recording of security-relevant data
- Effective extinguishing with a pure natural gas
- Proven system with a wide installed base

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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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Answers for infrastructure and cities.

Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

“We are the trusted technology partner for energy-efficient, safe and secure buildings and infrastructure.”