



**SIEMENS**

# **Sinorix al-deco STD – reliable, effective, and safe**

The intelligent object protection system for machine tools.  
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**SINORIX AL-DECO STD**

# All-round protection for machine tools



The intelligent object protection system Sinorix al-deco STD offers reliable and effective protection for machine tools. Its key features include power-independent fire detection and extinguishing, as well as online monitoring and automatic recording of all relevant safety functions.

## **Ensuring business flow**

Machine tools processing hard materials use non-hydrous coolants, such as oil, to cool down heat accumulation due to high cutting velocities in operation. Oil is a fire hazard, and a fire outbreak in such a machine can put the whole production site at risk. According to statistics, about 10% of all installed machine tools catch fire within two to five years. Approximately 43% of all companies go bankrupt immediately after a major fire incident; further 27% within the first three years after the event. In case of a fire occurrence, valuable machines and infrastructure can be severely damaged. Worse still are the considerable financial disadvantages, such as machine downtimes followed by delivery failures, which can cause serious

harm to the company image or even lead to the loss of customers.

Those consequences are not insurable and, in a worst-case scenario, could lead to the total loss of business. This is why reliable fire safety is essential and most recommendable. An investment in the Sinorix™ al-deco STD represents only about 1.5-2.5% of the total value of a machine tool and is, as such, a worthwhile investment compared to possible fire and follow-up damages.

## **Intelligent protection of machine tools**

The fully automated object protection system Sinorix al-deco STD covers everything from fire detection, alarming and monitoring to fire extinguishing. The fire detection as well as the activation

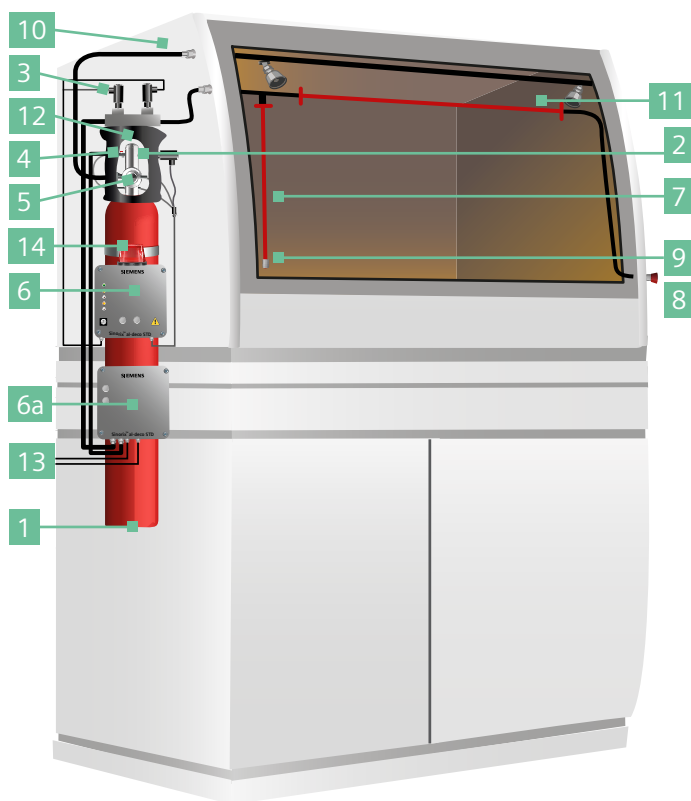
of the extinguishing process are pneumatically powered and therefore exceptionally reliable. Furthermore, all relevant safety functions are monitored online and indicated as well as recorded in case of an event. Of course, Sinorix al-deco STD follows applicable international standards and guidelines.

## **Reliable detection and extinguishing**

The patented tube-shaped linear fire sensor Lifdes™ (Linear fire detection source) made of a high molecular polymer is the heart of the system. This sensor is under a constant pressure of approximately 15 bar and is directly connected to the valve of the extinguishing agent cylinder.



# Key components



1. CO<sub>2</sub> Extinguishing agent cylinder
2. CO<sub>2</sub> Valve
3. Potential-free pressure-switch
4. Ball valve for activation/deactivation
5. CO<sub>2</sub> Loss of agent control
6. Alarm Interface / 6a Module A
7. Detection line, Lifdes fire sensor
8. Manual release with pressure gauge
9. End plugs of detection line
10. CO<sub>2</sub> Extinguishing line
11. Extinguishing nozzles
12. Distributor block with pressure switches 2 and 3
13. Electrical line to the machine
14. Alarming device

If the ambient temperature rises above 110 °C, the sensor bursts, and the valve of the extinguishing agent cylinder opens, which allows the gas to flow into the protected area. At the same time the machine is brought to an emergency stop. Since the detection works pneumatically, the sensor stays unaffected by external conditions, such as dirt, water, oil and vibrations, as well as technical interferences, such as power outages and deceptions. A false activation of the system is virtually impossible. Only a burst sensor can trigger the extinguishing process.

## Comprehensive online monitoring and recording

All safety features of the Sinorix al-deco STD object protection system are monitored online. In case of an incident, they are indicated acoustically and optically. It is also possible to connect the system to an existing fire control panel. Those functions as well as the operating data are recorded automatically

in a long-term memory and can be retrieved via a USB interface. This eases event reconstruction after an incident and helps clear up liability issues.

## Easy maintenance and commissioning

The al-deco STD system is very low-maintenance. We recommend simple annual maintenance to ensure system integrity. After the release of the extinguishing agent due to a fire incident, an appropriately trained operator can replace the cylinder himself and recommission the system to keep downtimes as low as possible.

## Effective and environmentally friendly

Sinorix al-deco STD uses the natural gas carbon dioxide (CO<sub>2</sub>) for its extinguishing process. CO<sub>2</sub> is the most effective extinguishing agent for burning liquids as it reduces the oxygen amount and has a high cooling effect. Compared to chemical extinguishing agents or powder,

it is also safe for the equipment as it does not create harmful residues. Therefore, no cleaning is required after extinguishing. Natural gases exist in our ambient air and the amounts required for the extinguishing process are safe for the environment.

## Highlights

- All-round protection for machine tools
- Reliable fire detection thanks to patented Lifdes™ sensor
- Pneumatically detection and activation of the extinguishing process
- Insensitive to technical interferences, power outages and immune to deception
- Comprehensive online monitoring and recording of all relevant safety functions
- Effective extinguishing with pure natural gas
- Tested and widely used extinguishing system

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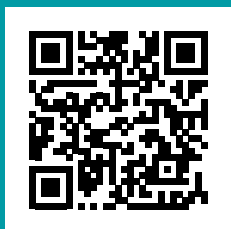
It helps our customers to thrive, communities to progress and supports sustainable development. Creating environments that care.

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