

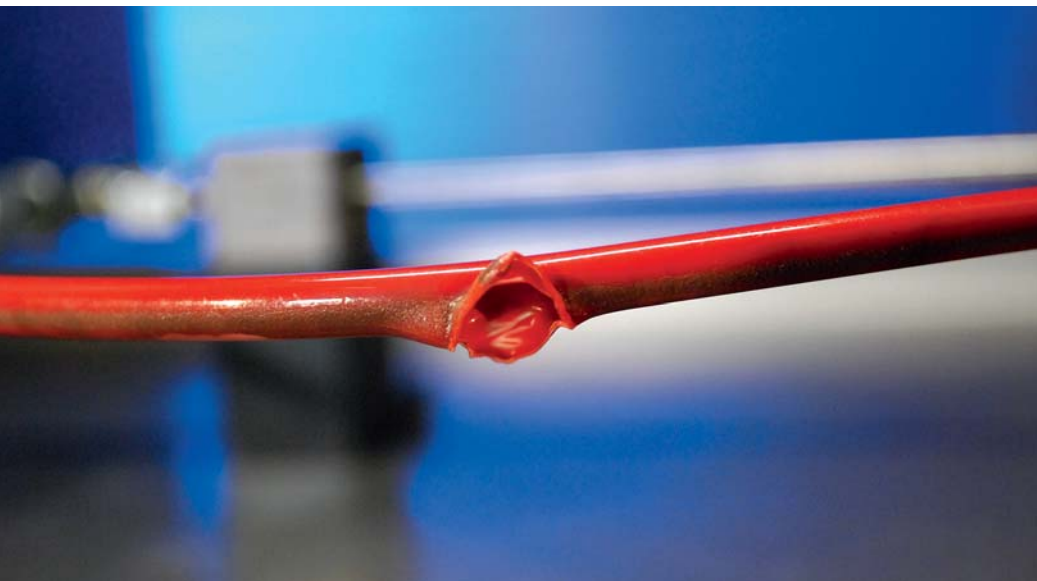
SIEMENS



# Sinorix al-deco PLUS – reliable, efficient, and safe for people

The safe object protection system for machine tools

Answers for infrastructure.



Patented tube-shaped linear fire sensor Lifdes



Activation and measuring unit

# Highest safety for people and machines

Sinorix™ al-deco PLUS object protection systems provide highest safety for people, machines, and the environment – throughout the entire life cycle of the machine tool. The use of the safety components ensures the protection of people according to the EU requirements.

## **Safer machine operation**

With Sinorix al-deco PLUS, fires are detected and extinguished purely pneumatically – with no electrical source and independently of the machine tool. As a result, Sinorix al-deco PLUS is insensitive to all kinds of technical interferences, and it is immune to deception. This ensures continuous machine operation and reduces maintenance: no special maintenance work is needed to keep this high level of reliability.

## **Unique personal protection**

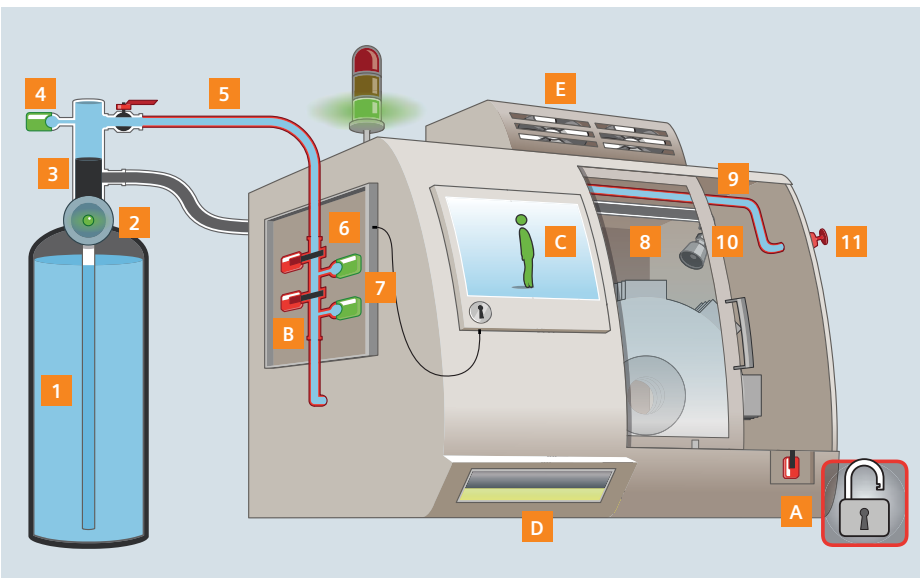
Sinorix al-deco PLUS object protection systems meet the highest safety requirements of the new machine directive 2006/42/EC. Dual-secured wiring, combined with redundant and self-monitoring components, help make this possible. Thanks to this technology, the machine tool cannot be operated until successful completion of a system check – and the machine door is unlocked only after successful and tested blocking of the extinguishing activation.

## **Reliable environmental protection**

The extinguishing agent used with Sinorix al-deco PLUS is a pure natural gas which has poor electric conductive properties and is chemically inert. This means that there will be no harmful reaction products when it comes into contact with fire, and it is environmentally friendly.

## **Efficiency based on proven control standards (machine)**

For communication and diagnostic purposes, Sinorix al-deco PLUS forwards information to the machine controller via the secure peripheral module. Safety-relevant information such as extinguishing system active, machine door released or locked, machine operation activated, and mode of operation are available via dual floating contacts. Standard information such as faults and losses of extinguishing agent can be used via single contacts.



#### Legend components

- 1 CO<sub>2</sub> extinguishing agent cylinder
- 2 Measuring unit for checking the CO<sub>2</sub> quantity
- 3 CO<sub>2</sub> valve (IHP)
- 4 Pressure switch fire detection
- 5 Detection line, steel, D=6x4 mm
- 6 SafetyBox
- 7 Pressure switch, potential-free
- 8 Extinguishing line for CO<sub>2</sub>
- 9 Detection line, fire sensor Lifdes (flexible)
- 10 Extinguishing nozzles
- 11 Manual release with pressure gauge

#### Requirements door release (personal protection)

- A Machine door can be opened when:
- B Safety valve extinguishing activation is blocked,
- C Machine operation is blocked,
- D Coolant feed unit is switched off,
- E Oil mist extraction is switched off.

#### Redundant monitoring of all safety-relevant functions

All safety-relevant functions and operation data are monitored online, indicated by acoustic and optical signals in the event of an incident and recorded in a long-term memory. All data can be read out and evaluated at any time via a USB interface.

#### Integration into fire detection systems

Sinorix al-deco PLUS object protection systems can be integrated into existing fire detection systems with information on system interruptions and fire alarm.

#### Maximum flexibility

At the operator's own responsibility, the operation of the machine tool can be resumed after discharge without the object protection system, using the security key.

#### Mandatory functionalities according to machine directive

The intended functions must only be performed if they do not endanger the safety and health of persons. This is especially important when oxygen-displacing extinguishing agents are used. Sinorix al-deco PLUS therefore provides the following features:

- The object protection system is never activated while the machine door is unlocked.

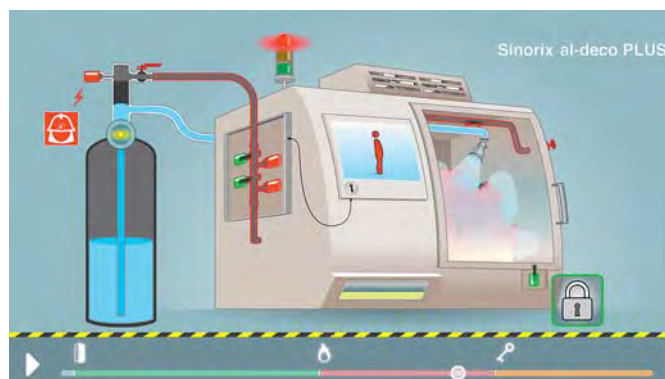
- After extinguishing, the door remains locked and can be opened only with a security key by an expert.
- During normal operation, the door can be opened only if the extinguishing activation is blocked.

#### Professional integration – flexible services

System integrators and system operators alike benefit from the innovative concept that redefines the safety aspects of the Sinorix al-deco PLUS object protection system. No matter if Sinorix al-deco PLUS is integrated during machine production or afterwards on the premises of the machine manufacturer or in the operator's plant – it always ensures protection of people and machines. The services from Siemens can be customized to the user's specific requirements.

#### Highlights

- Maximum safety for people, machine, and the environment
- Unique personal protection according to the latest machine directive
- Use of VdS-approved valves and self-monitoring components
- Insensitive to all kinds of technical interferences
- Online monitoring for fast intervention
- Recording of all system data for safety-relevant verification
- Redundant monitoring of all safety-relevant functions
- Efficiency based on tried-and-tested control standards



An animation showing the highlights of Sinorix al-deco PLUS is available on [www.siemens.com/sinorix](http://www.siemens.com/sinorix)

Siemens Switzerland Ltd  
Infrastructure & Cities Sector  
Building Technologies Division  
International Headquarters  
Gubelstrasse 22  
6301 Zug  
Switzerland  
Tel +41 41 724 24 24

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.

© Siemens Switzerland Ltd, 2011 • Order no. 0-92266-en • 0,51111

#### **Answers for infrastructure.**

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 preferred partner for energy-efficient, safe, and secure buildings and infrastructure.”**