



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

The safe object protection system for machine tools.
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SINORIX AL-DECO PLUS

Highest safety for people and machines



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.

Safer machine operation

Sinorix™ al-deco PLUS ensures continuous machine operation and reduces maintenance: no special maintenance work is needed to keep this high level of reliability. Furthermore, automatic operation of the machine is only released after fire protection is ensured..

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, makes this possible. This technology allows safe operation of the machine tool. It only releases the machine door if the extinguishing activation is blocked. After a fire, the machine door will be automatically blocked.

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. Safetyrelevant information such as extinguishing system active, emergency stop, machine door released or locked, machine operation activated and mode of operation are available via safe, dual floating contacts. Standard information such as faults and losses of

extinguishing agent can be used via single contacts.

Redundant monitoring of all safety-relevant functions

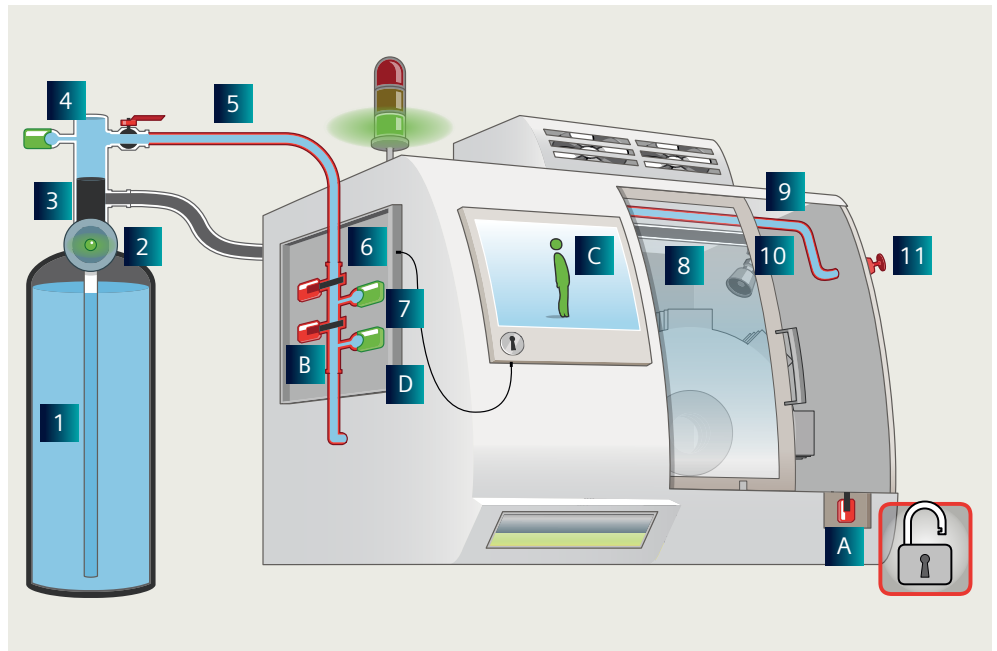
All safety-relevant functions and operation data are monitored online, indicated by acoustic and optical signals in the event of an incident and recorded in a long-term memory. All data can be read out and evaluated at any time via a USB interface.

Highlights

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 machines and people according to the EU requirements.

Legend

- 1 CO₂ extinguishing agent cylinder
- 2 Measuring unit for checking the CO₂ quantity
- 3 CO₂ valve (IHP)
- 4 Pressure switch fire detection
- 5 Detection line, steel, D=6x4 mm
- 6 Safety-Box
- 7 Pressure switch
- 8 Extinguishing line for CO₂
- 9 Detection line, fire sensor Lifdes (flexible)
- 10 Extinguishing nozzles
- 11 Manual release with pressure gauge



Requirements door release (personal protection)

The machine door can be opened (A) when the safety valves for extinguishing activation (B) are blocked, the machine operation (C) is blocked and extinguishing (D) was not activated.

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

After a discharge, the blocked machine door can be opened with a mode selector at the operator's own responsibility. Manual operation of the machine tool without the object protection system is possible.

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 mode selector by an expert.
- With secured fire protection, automatic operation of the machine tool is released.
- The mode selector allows manual operation if fire protection is deactivated.

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 (EN 13849-1:2015 category 4 PL e)
- Unique personal protection with type examination certificate according to machine directive 2006/42/EC
- Self-Monitoring and redundant components
- Insensitive to all kinds of technical interferences
- Online monitoring for fast intervention
- Recording of all system data for safety-relevant verification
- Easy integration into existing safety circuits

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