



**Silo Protect**  
Fire protection solution for silos and bunkers

*Cool down.  
Fire Protection by*

**MINIMAX**

## Risk

When wood-based panels are manufactured, highly combustible material is generated during the production process and is transported to enclosed silos or bunkers.

Mechanical discharging, conveying or preparation devices are all potential ignition sources. In the vicinity of the discharge screw conveyers in silos or at the bearing of the needle rollers in bunkers friction and overheating of material can cause a deep seated unrecognisable smouldering fire.

Ignition sources carried in through the feed opening also present a potential fire risk. This is safely controlled with our spark detection and extinguishing system.

Another possible cause of fire is self ignition arising from the biological decomposition process.

When a concealed, smouldering fire spreads to a surface area and is exposed to oxygen, it can quickly develop into an open fire that can destroy the entire machine. Under certain conditions, it can even lead to an explosion.

The high concentration of fine particles and carbon monoxide, and the often existing high relative humidity make it difficult to detect incipient fires inside silos or bunkers.

This volatile combination of high fine particle concentration and relative humidity has made early fire detection extremely difficult up until now.

In the past, only temperature detectors could be used under these extreme environmental conditions. These could only detect a fire with an open flame, which caused considerable delay in the extinguishing procedure, thus enormously impeding extinguishing activities.

# ABLE

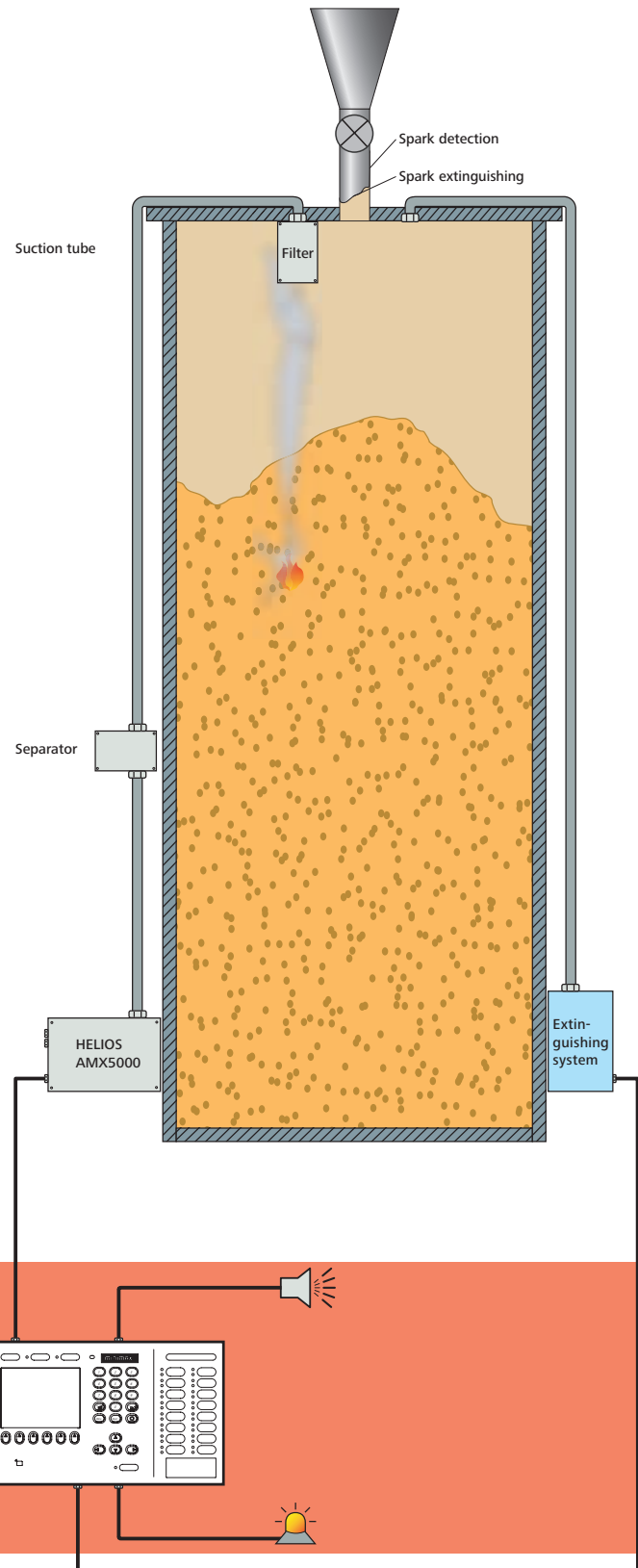
## firefighting

### Solution

In order to early detect this fire risk, a system has been developed in various pilot plants that meets these special requirements. The HELIOS AMX5000 aspirating smoke detector, already in use in other areas, has been successfully applied here by Minimax using a combination of filters and dust separators.

The HELIOS AMX5000 aspirating smoke detector continuously takes air samples from the silo or bunker area. These air samples are tested for carbon monoxide and smoke particle content. When several freely adjustable concentration values are exceeded, an alarm is activated and a fire extinguishing system may optionally be triggered.

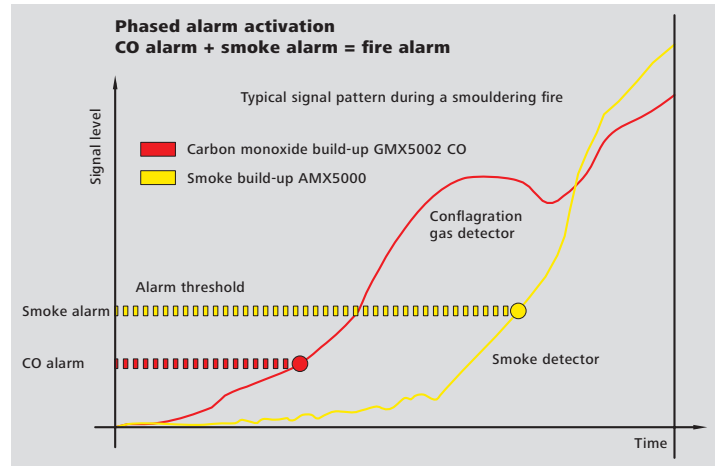
A specially developed filter removes the large particles from the air-dust mix that is sucked into the bunker. The fine particles and water are then removed in another procedure.



# ADVANTAGES

## by fire detection

- ▶ High functional reliability through the use of multisensors for smoke aerosols and carbon monoxide
- ▶ The tried-and-tested system for particle precipitation, air flow monitoring and function-monitored sensors ensure the highest possible reliability
- ▶ Aligned with typical disturbance signals through intelligent analysis algorithms
- ▶ Freely adjustable alarm thresholds available for signal processing
- ▶ Integrated self-learning mode in AMX5000 for adaptation to environmental conditions
- ▶ Robust industrial design
- ▶ Application in ex-dust zone 20 possible
- ▶ A blow-through system for filter cleaning can be integrated into the system
- ▶ Automatic Minimax firefighting equipment can be actuated



### Extinguishing

The FMZ 5000 fire alarm control panel automatically activates the Minimax fire suppression system. Regardless of the fire load in question, as a company offering a full range of services, we have both water and gas extinguishing system in our portfolio and adapt each individual system to your requirements. For a completely safe fire protection.



HELIOS AMX5000

FMZ 5000



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We reserve the right to make technical changes.