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GreCon

Extinguish
BEFORE
Ignition

GreCon

Fire
Protection

GreCon

Measuring
Technology

GreCon

Service



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Spark Extinguishing Systems

GreCon

QUALITY
INNOVATION
TRADITION





Innovation is our Tradition.

With this maxim, we refer to our innovative company founder who founded the FAGUS shoe last factory in 1911. Even then he had the courage to engage the visionary, but unnoticed Walter Gropius, who became an internationally renowned architect, to build his factory, which today is regarded as the origin of the modern age building. UNESCO designated the Fagus Factory as a World Cultural Heritage Site in 2011. With an extensive restoration, the factory is in very good condition, still in operation and owned by the family.

In 1970, our company experienced further innovation. My uncles Gerd and Ernst took over FAGUS, the shoe last production that continues operations today, and founded GreCon. Today, we are suppliers of measuring systems especially for the wood industry and fire protection systems worldwide. One of the fire protection systems is the spark extinguishing system.

In 1973, my grandfather supplied a complete particleboard plant to Russia in which it burned several times a day. He could not just tolerate this and asked his sons to think of something to reduce the risk of fire. Ernst and Gerd Greten thought whether it was possible to detect sparks and to extinguish them before they cause fire or an explosion. The idea of a spark detection and extinguishment system was born.

Extinguish before you get burned.

Today, our spark detectors monitor industrial processes in over 200,000 installations around the world, not only in the woodworking industry, but also in many other production processes. This makes us proud, and it fills me with joy to see how many innovations have developed from our original idea!

Kai Greten
Managing Director of GreCon

Why GreCon



- The GreCon spark extinguishing system was introduced as a world first for preventive fire protection in 1973
- Decades of **expert experience** in several industries
- Over 200,000 installations **worldwide**
- Global service team with more than 80 service experts

GreCon Spark Extinguishing Systems

GreCon spark extinguishing systems have been used for more than 30 years in many different industries. A spark extinguishing system consists of three components: detectors, control console and extinguishing system.

Wherever organic or inorganic bulk materials are pneumatically or mechanically extracted or transported, the GreCon spark extinguishing system detects sparks and hot or glowing particles as well as other ignition sources in conveying facilities and eliminates them before they cause severe damage to filters, silos or other plant areas at risk. With a GreCon spark extinguishing system, the risk of fire or explosion in a monitored plant is substantially reduced.

GreCon

Detection of Risks of Fire and Explosion

Your Benefit



- **Prevent** ignition sources
- **Avoid** fire or explosions
- **Avoid** personal injuries and property damage
- **Secure** highest possible production availability

All Sensors at a Glance

There are different risks of fire and explosion in industrial processes. GreCon has suitable detectors for different risks.

Spark Detection Preferably in Dark Areas



Spark detectors FM 1/8 can be used in dark areas where ambient light is not present. This ensures the high sensitivity of the FM 1/8 sensors so that the detection of ignition sources can be optimised even in dense material flow. The optics of the sensors are normally kept clean by the air and material flow which makes the system easier to maintain.

Spark Detection in High-Temperature Areas

FM 3/8 sensors with fibre optic cables are used where processing or drying temperatures exceed 600 °C (1112 °F). Three separate stainless steel covered glass fibre cables transmit the infrared radiation to the sensor, with each cable ending on a separate photo optic diode. Solid glass adapters are added to the cable end for extremely high temperatures. Detection reliability is achieved by using three detection elements per sensor. The fibre optic cables are available in different lengths for different duct diameters.



Spark Detection under Daylight Conditions



GreCon can detect sparks on conveyor belts, production lines, or at transfer points between conveyor systems.

A special sensor, type **DLD 1/8**, is used where ambient light is present.

Detection of Hot Particles and Glowing Embers



Industrial production processes often create hot materials or hot large masses without them glowing in a visible range. Coaly or sooty deposits within ducts or high volumes of comminution processes as they occur in exhaust ducts of hardening shops or foundries as well as in recycling plants, for example, are detected by the **HPD 1/8 detector**. The HPD 1/8 detector reliably detects dangerous potentials in this low, non-glowing temperature range.

Temperature Monitoring of Facilities



The thermo-element of the **thermo detector TM 1/9** has two different trigger functions that work in parallel. It reacts to the adjusted temperature threshold and triggers an alarm upon a rapid temperature rise which is typical of fire. In case of smouldering fire, i.e. slowly rising temperatures, the system heats up steadily and triggers an alarm when the nominal value of the sensor is reached. In case of quickly rising temperatures, typical of an open fire, an alarm is triggered before the nominal value is reached.

Detection of Open Flames



GreCon flame detectors use UV/IR or multiple IR technology. Both methods stand out due to high detection reliability and avoid false alarms. To guarantee a reliable automatic extinguishment, several trigger criteria are evaluated. To select the suitable detector, the kind of inflammable material as well as the requirements of the installation surroundings are taken into account.

Detection of Smoke



Scattered light smoke detectors SRM 9/1 detect fires that develop smoke, e.g. in return-air ducts of dust filters. Scattered light smoke detectors can be used to detect fire in dust-free areas.

Sensor Accessories

Additional Measures against Heavy Dirt Accumulation



If dirt accumulation or other build-up on the sensor optics is expected, special **air purge adapters** increase the detection reliability. Cleaning intervals are thus extended.

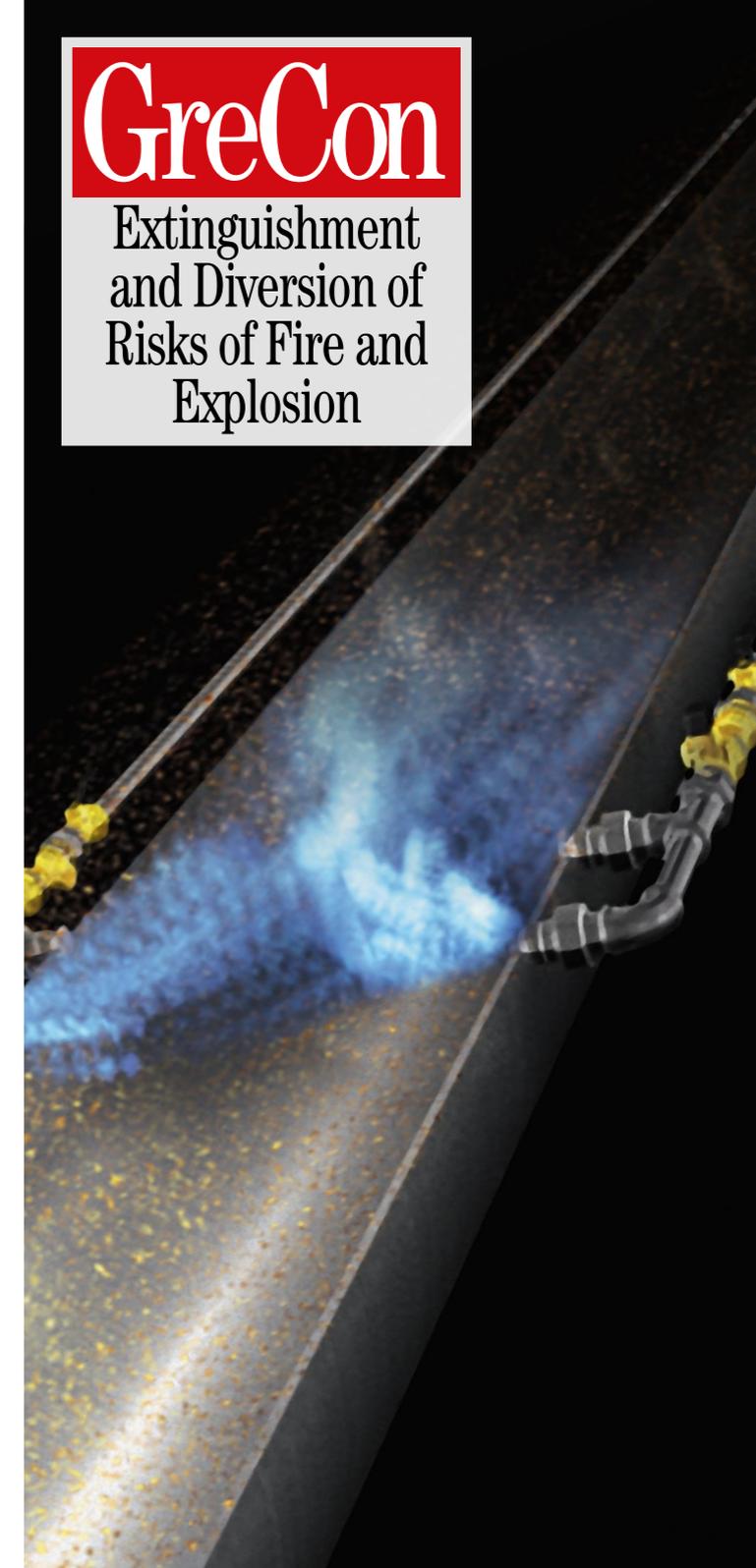
Light Intrusion



Light intrusion, whether artificial or daylight, might have a negative effect on the infrared radiation detection in the sense of the application. **Slotted diaphragms** are used to avoid false alarms and to optimise the detection performance.

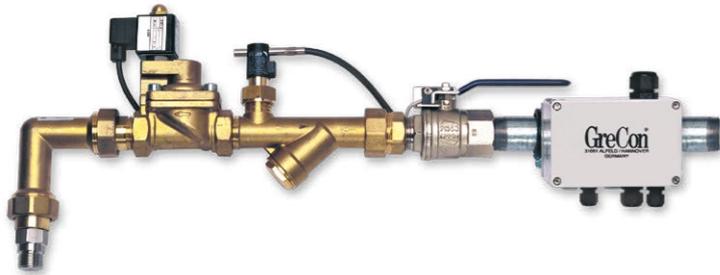
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Extinguishment and Diversion of Risks of Fire and Explosion



Countermeasures at a Glance

To achieve a preventive fire and explosion protection effect, automatic countermeasures are used in connection with detection.

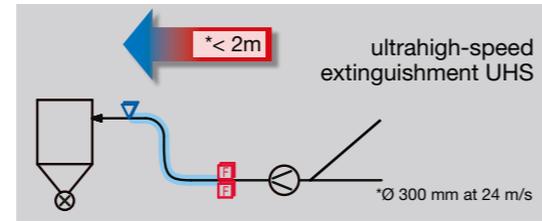


Extinguishment

A fine water mist spray emerges from the **extinguishing nozzles** within a few milliseconds and is used for extinguishing ignition sources. They are made of high-quality stainless steel, which increases the resistance to wear. After extinguishment, the shutter cone of the nozzle automatically seals it and keeps it free of contamination. Using different nozzle types minimises the necessary water quantity.



Reduce Reaction Times by a Factor of Two or Three



The new **ultrahigh-speed extinguishment UHS** consists of a special high-speed solenoid valve as well as a special spray nozzle that is adapted to this system. GreCon now offers a solution for those areas of short pipe distances.

Due to a reaction time of less than 0.1 s, extinguishing distances of less than 2 m become possible with the ultrahigh-speed technology.

Diversion of Material Flow

Diversion gates can divert the material flow to prevent the transfer of ignition sources to other plant areas. Diversion gates are also available in stainless steel for applications in the food and other industries.



Interruption of Material Flow

Fire traps and shut-off gates are accessory parts which can mechanically close transport ducts to prevent the transfer of ignition sources to other plant areas. Fire traps and shut-off gates are also available in stainless steel for applications in the food and other industries.

Alternative Extinguishing Concepts

On demand, **special application-specific extinguishing concepts** with gas, foam or steam can be used in connection with our system.

Accessories

Pressure Increasing Units

If the available water flow pressure for extinguishment is inadequate, a **water pressure increasing unit** is installed to create the required water pressure. If the water flow rate to the pressure increasing pump is too low, or, if the unit is connected to a drinking water supply, a storage tank must also be installed.



Anti-Freeze Protection

Heat tape and insulating material can be used to **protect water pipes** and extinguishing devices from freezing in areas exposed to frost. We offer special, easy to maintain insulating bags for the extinguishing devices.



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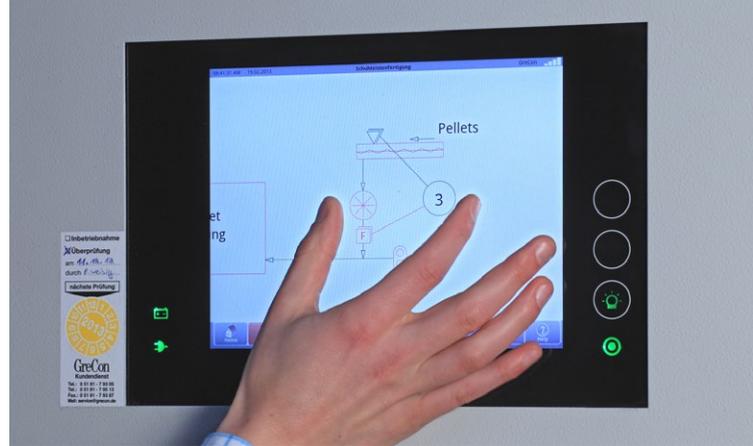
Control Console and Operation



Multi-Touch Panel for Fast and Easy Operation of Spark Extinguishing Systems

The user-friendly operation surface of the 10" colour display with multi-touch function allows quick access to all relevant data as well as intuitive operation of all functions.

Particularly noteworthy is the possibility to display a complete production flowsheet. Areas that have current alarms can be examined more closely by using the simple zoom function.



The new multi-touch display for easy and intuitive operation

Important Information Available Quickly

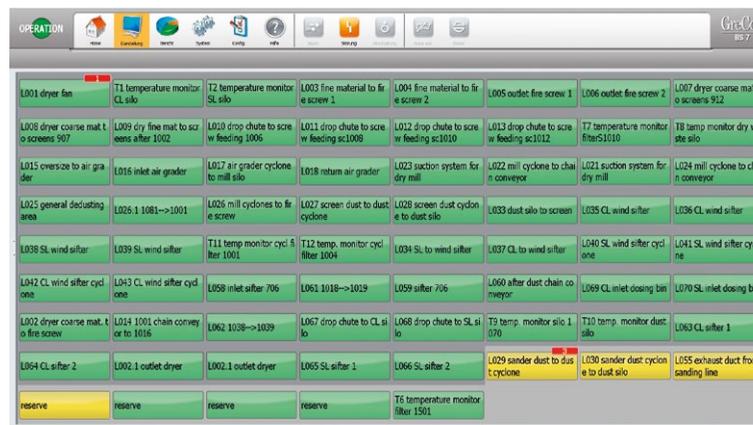
Important data can be displayed quickly by direct selection of information via clear symbols. The display memory offers room to store electronic files, such as instruction and operating manuals, which can be used when a paper manual is not available.

Easily Retrofit Existing Systems

In many cases, the ease of operations of the multi-touch display can replace the existing standard GreCon control console display.

Operation Panel for Small Control Consoles

Small GreCon control consoles are equipped with standard operation panels.



BS 7 NET makes clear operation and control from the control station possible

BS 7 NET for Easy and Clear Handling

In large production plants, several control consoles can be installed in different plant areas. With the network technology BS 7 NET, their signals can be recorded centrally.

BS 7 NET allows local installation of control consoles of the CC 7000 and CC 5000 series on the company premises, e.g. in control rooms. No space is required in control stations, and cable distances can be reduced to a minimum. The decentralised architecture provides additional redundancy and increases easy maintenance of the entire system. The control console can be placed even closer to production.

BS 7 NET is a simple operation and visualisation possibility of the current incidents in the system. The operation staff can react to current alarm incidents much faster. The easy handling can simplify the operation of spark detection and extinguishment systems in daily life.

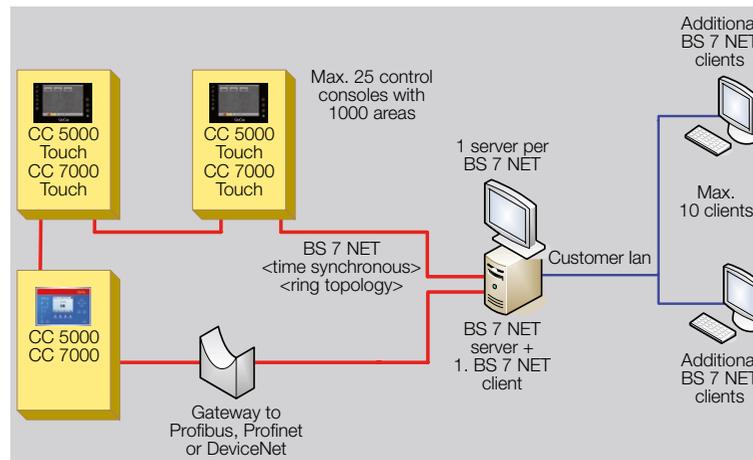
Essential operations are, for example, the acknowledgement of alarms or the clear administration of disablings. The BS 7 NET server collects all information and communicates with the control consoles and the operation clients that might be installed in different production sections. One can see at a glance where danger zones are concentrated and whether interventions are necessary.

BS 7 NET displays alarm frequencies and records the events of all control consoles with a time stamp exactly to the millisecond. Management and operator are always up to date.

BS 7 TOUCH-CLIENT

For single control consoles, the BS 7 TOUCH CLIENT with BS 7 NET functions is available as remote operation element.

BS 7 NET System Overview



GreCon

Global
Service Team
with more than
80 Experts

Personal customer service, combined with competence and experience, is our strength

Customer service is one of our strengths. Beginning with the installation and start-up of your system, its daily use, maintenance work and trouble-shooting, your personal GreCon technician accompanies your spark extinguishing system through its whole operational sequence. This is done in close co-operation with your people.

Our Network



Over 10,000 production plants in hundreds of industries worldwide are protected by GreCon spark extinguishing systems.

To meet this extensive use of our systems and the customers behind them, we are represented by our own companies and reliable partners worldwide.

