# Spark Extinguishing System

## *ALF 8000*

**Spark Extinguishing System**

Detect sparks and glowing particles inside pneumatic conveying systems, blow pipes and chutes before they arrive at flammable areas, such as dust filters, silos or bins. Dust fires, explosions and production shut downs can be avoided.

Sparks are detected by ultra sensitive infrared spark detectors. Extinguishing is carried out by an extinguishing device which creates a dense water pattern in a split second.

The control cabinet has selective operator blocks for each zone, making it very user-friendly. The redundant assembly and self-testing assures high reliability of the system.


**A new Spark Extinguishing System superior to previous technology**

Extensive research and development results in a new generation high-efficient spark extinguishing system. To develop such new system, EWS used the wide experience and know-how of its employees who have several decades of experience. Also other existing systems have been analyzed. Various systems of other suppliers have been tested extensively.

We had two goals: 1. Analysis of disadvantages of all existing systems. 2. Development of new, beneficial technical solutions. The result is a new generation of Spark Extinguishing System. For example, we noted the high cost of the installation work. New concepts reduce the cost of wiring up to 50%. After we have interviewed many users of Spark Extinguishing Systems we learned that the operation of highly-integrated control cabinets is often difficult and leads to extensive training and instruction. As a result we decided to design selective operator blocks for each zone whereby the handling becomes very user-friendly. Another point of criticism of system users was that the water for extinguishing can disturb the production process – especially if the system triggers an alarm several times each day, as is often the case. EWS tested the effectiveness of extinguishing in a wind tunnel with air velocity of up to 36m/s [7,000ft/min.]. As a result EWS developed a novel nozzle which allows significant reduced use of water, with the same effectiveness of extinguishment as conventional nozzles. Another weak point was noticed – the incomplete auto-supervision. New self-testing devices monitor failures of all important functions of detection and extinguishment. After introducing the EWS Spark Extinguishing System to users they confirm that this really is a new generation of Spark Extinguishing system.

Spark Detector DL for process temperature
up to 70°C [158°F]

Spark Detector DH for process temperature
up to 350°C [662°F]

Nozzle: open / closed (patented)

Quick fastening Mounting Adapter for
spark detectors and nozzles

## Technical Data

| | |
|---|---|
| Control Cabinets: | for 3, 6, 10, 20, 30, 40 zones |
| Spark Detectors: | up to 70°C [158°F]<br>up to 350°C [662°F]<br>ATEX 20 |
| Nozzles:<br>(patented) | Highly efficient |
| Mounting Adapter: | Fast assembly |
| Site Terminal:<br>(“SiteBox”) | Connection of<br>up to 4 solenoid valves |

Response Time:

| | |
|---|---|
| up to diameter 500mm [dia. 20”] | 250ms |
| diameter > 500 - 1000mm [3.3ft] | 300ms |
| diameter > 1000mm [> 3.3ft] | 350ms |

Distance Spark Detector to Extinguishing Device:

“Response time” x “air velocity”
Example: 0.3s x 25m/s = 7.5m [25ft]

## Benefits

- Easy to use control cabinet
- High redundancy
- Reduction of up to 50% for wiring
- Significant reduced demand of water
- Same mounting adapters for all detectors and nozzles allow fast mounting

## Options

- Pressure increasing systems
- Thermal detectors and manual detectors
- Electronic supervision of each nozzle
- Data interfaces