PELLET SOLUTIONS™
HOW TO PROTECT BIOENERGY PROCESSES AGAINST FIRE AND DUST EXPLOSIONS
It’s not a question if it will burn but when

20 million vanished in smoke...

Pellet factory destroyed in a violent fire

Firefly – Keeps you in production
Headlines about fires in pellet plants are unfortunately common. It is however no coincidence that the wood pellet industry is particularly exposed to fires. In a pellet manufacturing process there are several high risk zones where fires or dust explosions can occur. Furthermore, the pellet process environment is very demanding. This is why customer adapted solutions are required in order to achieve an efficient protection for the pellet manufacturing process.

A possible scenario

We never generalise

For over 30 years, Firefly has specialised in creating tailor-made solutions that will fit your operation. Our competent staff has vast experience in the pellet industry and the highest technical skills necessary to design a safe fire prevention solution for your company.

In order to protect your company from fire and dust explosions:

- You need a fast and reliable system of the highest technical standard.
- You need a tailor-made system to match your process flow.
- You need detection of potential hazards: i.e. both sparks and hot particles occurring in your process.
- You need an effective extinguishing method that can penetrate large production flows.

Additionally, to ensure uninterrupted production:

- You need a system which is insensitive to daylight, thus minimising numerous false alarms and costly downtime.
- You need an extinguishing method adapted to your process to minimise the risk of water damage.

At Firefly we understand your business
How we protect your plant
Firefly always delivers tailor-made system solutions. Our engineers are able to create a system design that will provide optimal safety against fire and dust explosions.

Firefly has a range of unique products which are combined in a system depending on the design of your process. Our systems are designed to protect industrial processes, increase safety, and prevent damage to plants.

Detection
Detectors that indicate hot particles, sparks and flames in pneumatic or mechanical conveying systems
Detectors that indicate flames in open areas

Extinguishing
Using full cone water spray
Using water mist
Using mechanical diversion, isolation, steam or gas

Control
Control unit for system monitoring and process control

Services
Risk assessment adapted to each customer
Installation & Commissioning
On-site service of installed systems

Solutions
Firefly has developed unique solutions for the pellet industry. With these solutions, your plant can effectively be protected against costly fires and dust explosions.

We offer protection of:
• Dryers
• Dryer cyclones
• Intermediate storage
• Mills
• Presses

• Coolers
• Screens
• Pellet silos
• Filters

Besides spark detection we offer spot protection of high risk machinery using flame detection and water mist.

Examples of spot protection applications:
• around mills
• around pellet presses
• boiler rooms
• reception areas
We protect your entire process
Have you ever had fire problems at for example your dryer, mill or press? With over 30 years of experience in the pellet industry Firefly has developed tailor-made protection solutions for the entire pellet producing process.

From dryer to press, from cooler to silo, protection of high risk machinery or filters; our technical competence and our highly sophisticated detectors ensures the best protection solution for your pellet production.

Firefly – Keeps you in production
Protection of power plants

When inflammable material is crushed, milled, conveyed and stored, the risk of fire increases. The use of renewable sources of energy, such as pellets, increases this risk as this material usually is dry and needs only low ignition energy to ignite.

Firefly has over 30 years of experience in protecting power plants from fire and explosions. With unique patented technology Firefly can detect sparks and hot particles in your process and eliminate them before they create a fire or explosion.

Firefly – Keeps you in production
Detection of sparks and hot particles down to 250°C
If you extinguish a match, its temperature will be around 470°C / 800°F. This is about the same temperature that is needed to ignite whirling wood dust, which exists in for example a filter. Layers of wood dust, which exist in a pellet silo, can ignite at even lower temperatures (~260°C / 500°F). Firefly detects sparks and hot particles down to 250°C / 480°F.

Conventional spark detection systems detect light from a spark, i.e. temperatures from about 700°C / 1290°F and up.

Many fire problems in the pellet industry are caused by friction. The friction itself does not generate sparks, but causes hot surfaces and heated material. When the material reaches its lowest ignition temperature, it can cause ignition in the process.

Research* clearly shows that (black) hot particles are more common as a source of ignition within the process industry than first thought. Therefore Firefly has developed a unique patented technology based on Infrared (IR) radiation detection, which makes it possible to detect and eliminate both sparks and hot particles with temperatures down to 250°C / 480°F.

Conventional spark detection systems detect daylight, which dramatically increases the risk of false alarms.

*Prof. Rolf K. Eckhoff, “Dust explosions in the process industries” (2nd edition)

Powerful extinguishing with full-cone water spray
The pellet industry handles large amounts of material; from hundreds of kilos up to several tons per hour. High flows of compact material demand a powerful extinguishing which is able to penetrate large production flows. Firefly provides powerful extinguishing using full-cone water spray.

Conventional systems use extinguishing with small water droplets. The water is only divided in the periphery (hollow-cone nozzles).
Firefly – Keeps you in production

Firefly is a Swedish company with more than 30 years of experience in the pellet industry. We deliver complete systems to protect your company against fires and dust explosions.

With unique solutions, quick delivery and excellent service, Firefly has become the natural choice for many customers within the pellet industry worldwide.

Contact us and we will tell you more about how we can provide you with the best safety solution for your process!