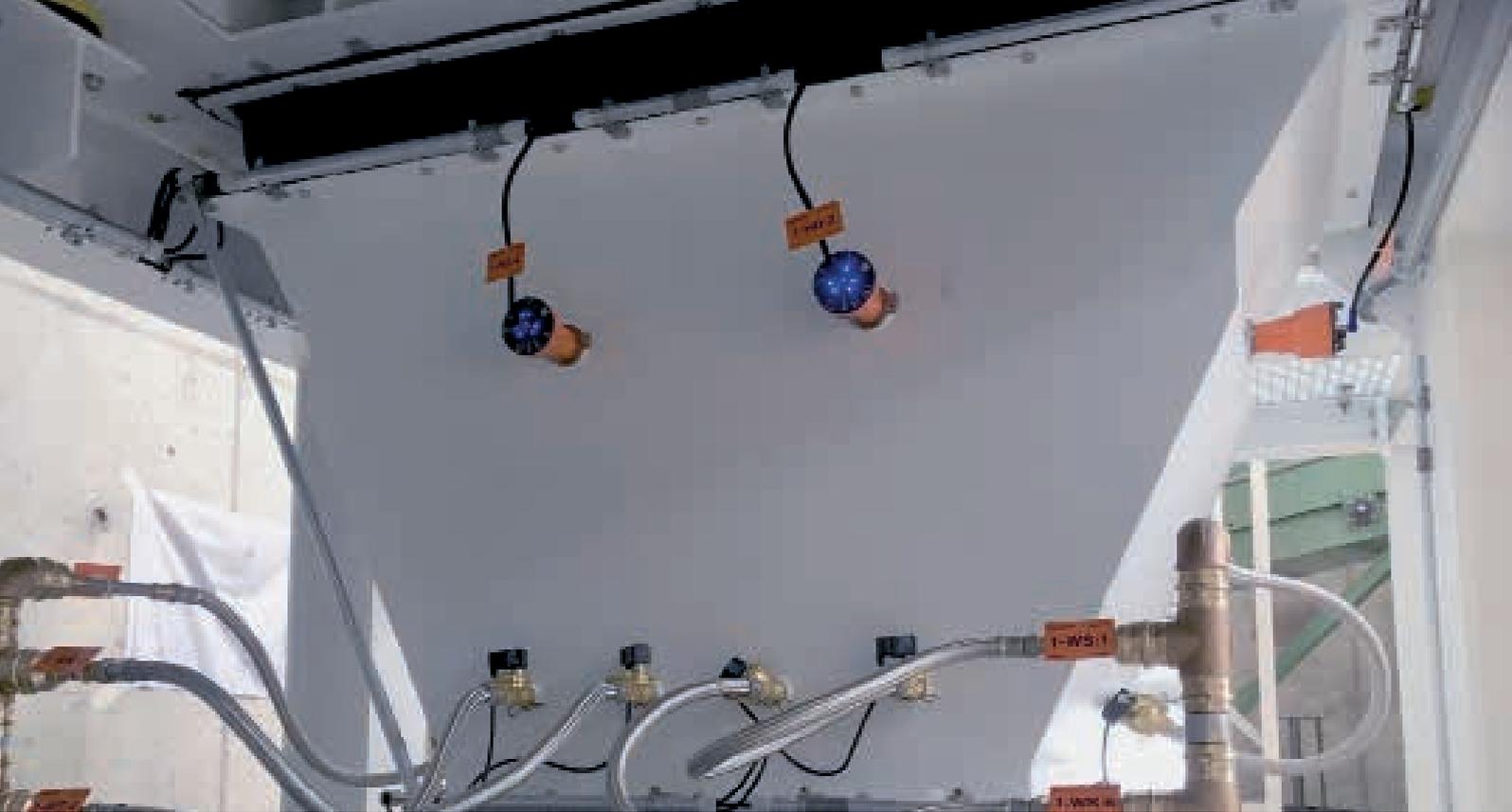


Firefly ShredderGuard™

Fire protection solution for shredders in the recycling industry





Why protect a shredder

Every year, fires occur in numerous shredders worldwide. Frequent fires in shredders often result in production downtime and loss of revenue. It can also be a hazard for the personnel. Regardless if you shred waste, paper or other materials, a fire in your shredder can occur due to several reasons: for example friction, bearing failure or foreign objects in process for example stones or metal pieces.

A fire in a shredder can spread very quickly. Therefore, a fast acting fire protection system that also can withstand the tough conditions in and around a shredder is required.

Until today, no one has succeeded to equal the performance and reliability of Firefly's products and solutions. Firefly Shredder-Guard™ is the company's solution to prevent fires in shredders in the recycling industry.

"Firefly has been on our side since day n°1, we have worked with their team during the project definition to get the best ratio between risk management and CAPEX optimization. Firefly keeps our people safe while we concentrate on improving our performance standards in the alternative fuel industry."

Nicolas Al Houayek
Corporate Manager
Promotora Ambiental, S.A.B de C.V



Firefly ShredderGuard™ solution

The focus of the Firefly ShredderGuard™ solution is to detect and extinguish a fire in a shredder as quickly as possible. This is why a Firefly safety system always consists of three main integrated functionalities: detection, extinguishing and control.

By integrating different techniques into one solution, Firefly provides optimal safety for the protection of shredders:

 **Firefly Flame Detector**
Fast-acting Flame Detectors, highly immune to external disturbances and designed to withstand tough industrial environments. Firefly Flame Detectors are FM approved.

 **Patented True IR Detectors**
Millisecond detection of hot particles, sparks and flames. Firefly's Spark Detectors are FM approved and insensitive to daylight.

 **Full-cone Water Spray Extinguishing**
Powerful extinguishing with a unique nozzle design and placement aimed to penetrate and cover the entire material flow. Activated within milliseconds after detection.

 **Water Mist Suppression**
Installed over the conveyor belt. Firefly Water Mist Suppression is efficient for suppression of flames in machines or in open areas with minimal water usage and quick reaction time.

 **A Unified Control System**
Enabling a good overview of all protected zones. Operators will control the system via IntuVision™, an intuitive user interface with a colour touch screen, which comes as a standard in every Firefly System.

About Firefly

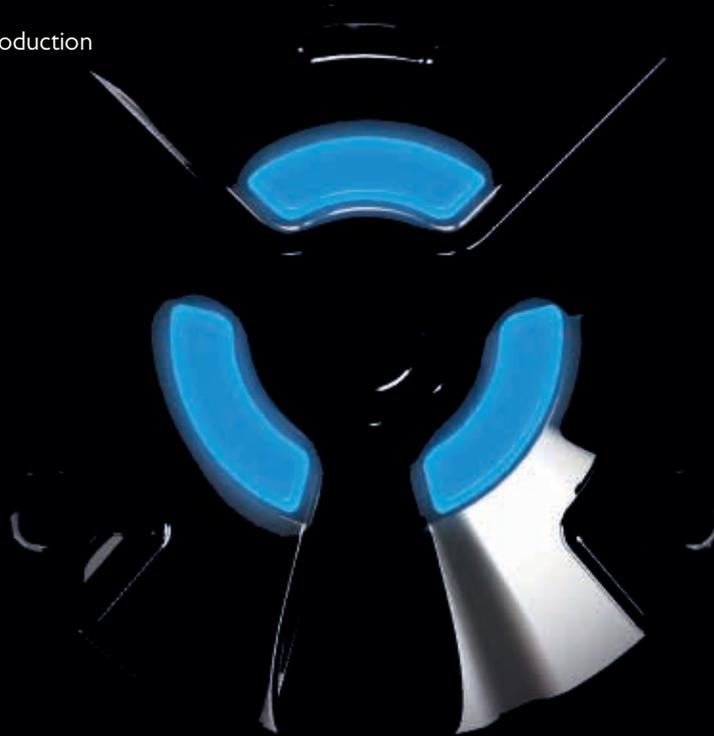
Firefly is a Swedish company that provides industrial fire prevention and protection systems to the process industry worldwide. Since 1973, Firefly has specialized in creating customized system solutions of the highest technical standards and quality. Based on customer needs and research, Firefly has developed and patented products and solutions, creating a unique portfolio of innovative products and system solutions to increase the level of safety.

The Firefly quality management system is certified according to ISO 9001 and EN ISO/IEC 80079-34. Firefly's products hold national and international third party certifications through FM, VdS, CSA, DNV, LCIE Bureau Veritas, Delta and RISE among others.

For more information on our certifications and approvals, please visit: www.firefly.se/en/company/approvals

Do you have questions about fire and explosion risks?
Our fire preventive experts will be happy to share our knowledge and experience.

Firefly – Keeps you in production



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Firefly solutions for ShredderGuard™ – Ver 1.1 | EN
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