

Firefly Automated Water Cannon

Advanced Robotic Fire Suppression.
Seamlessly Integrated with Firefly Systems



Why use early fire detection

In recycling facilities, fires often start small but escalate rapidly in bunkers, storage areas, and open processing zones. Traditional suppression systems may be able to detect, but the biggest challenge, to suppress or stop fire from spreading in a cost-efficient way, is still missing.

The Firefly Automated Water Cannon adds a new layer of protection:

High-flow, targeted suppression – automatically directed at the fire source within seconds.

Firefly proudly launches its Automated Water Cannon, also known as robotic fire monitor, the latest advancement in fully automatic fire detection and suppression technology. It can be integrated as part of a new Firefly system or as an easy-to-add upgrade for existing Firefly installations. Designed with the unique challenges of the recycling industry in mind, this cutting-edge solution offers rapid response, high-flow suppression, and intelligent automation to protect your most challenging facility areas cost-effectively.

If you start water suppression quickly enough, you have the possibility to contain the fire and extinguish it before it causes significant damage. Rapid detection, coupled with rapid, high-flow suppression at and around the fire source, is crucial. By intervening immediately, you can minimize damage and increase the chances of successfully fighting the fire before it spreads out of control.



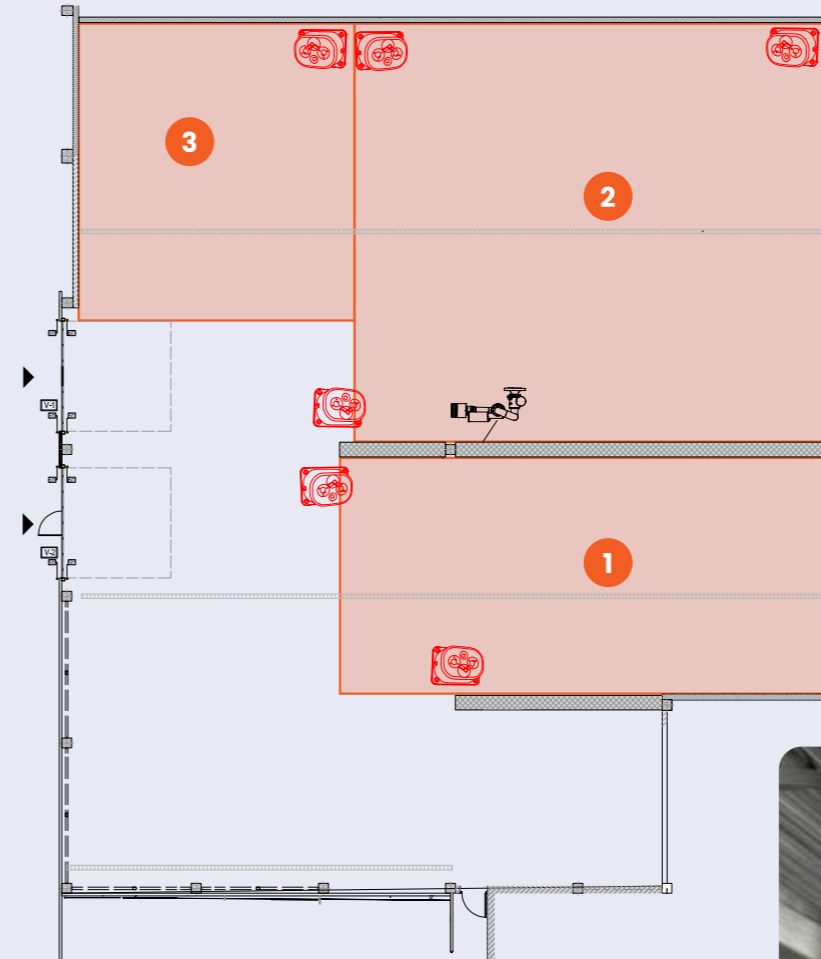
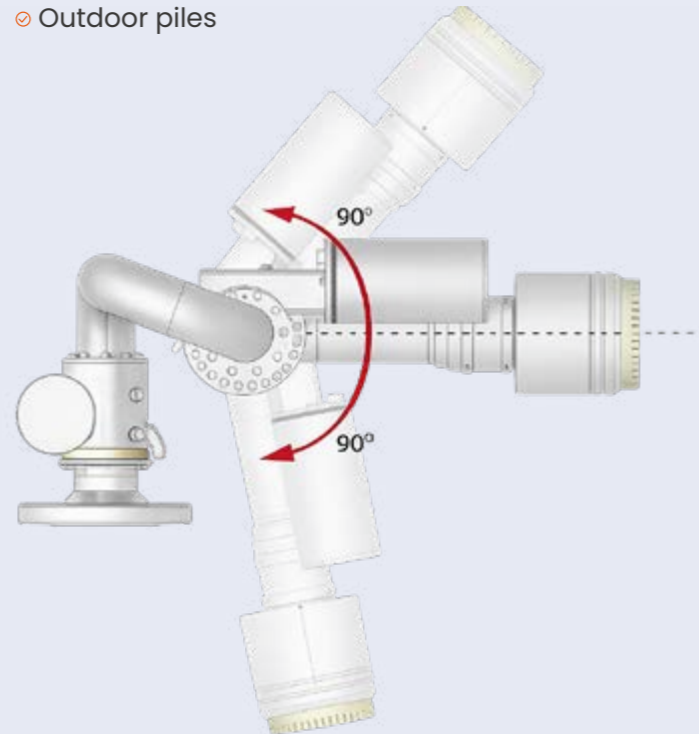
How does it work?

The protected area is divided into smaller zones, with each zone monitored by its own flame detector. If a fire is detected in any zone, the corresponding flame detector instantly sends a signal. This triggers the system to automatically move the water cannon to aim at the area of the fire, automatically open the valve, and begin suppressing the fire. All focused on the specific zone where the detector was triggered. Fire suppression commences in as little as 5 seconds, and typically in less than 15 seconds. When the fire is out, the system shuts off, comes back to the programmed end park position, and remains ready to reactivate if a new fire breaks out.

Normally, one water cannon can be used for up to 10 detection zones, depending on customer expectations, risk scenarios, and requirements.

Common applications

- ◉ Waste management & recycling
- ◉ Power Generation
- ◉ Warehouses
- ◉ Marine fire deck protection
- ◉ Fire boats
- ◉ Oil Platforms
- ◉ Industrial facilities with high ceiling clearance
- ◉ Outdoor piles



Water cannon zones (example)

- 1 Zone 1
- 2 Zone 2
- 3 Zone 3



This is the preferred mounting, as the two main motors can be used to change direction a full 180°.



Key Benefits for the Recycling Industry

Instant Detection & Suppression: Detects and targets fires within seconds, helping prevent catastrophic losses in high-risk zones like shredders and waste bunkers.

Seamless Firefly Integration: An intelligent fire protection system that brings together the Firefly ShredderGuard, Spark Detection, Quick Suppression and the Automated Water Cannon.

Autonomous Operation: Runs 24/7/365, identifying fires and activating high-volume water without human intervention and without the need for any cloud or off premise service. Manual remote control is always available for oversight and operator intervention.

Cost-Effective Area Coverage: One water cannon can cover large zones, reducing system complexity and installation costs compared to multiple conventional solutions.

Robust Industrial Design: Engineered for harsh environments using high-quality materials and components, ensuring reliable performance and long service life even in demanding recycling conditions.

User-friendly App and PC interface:

ONE App turns any iOS or Android device into a full-featured remote control device to give operators complete control of the water cannon. ONE Web allows users to easily control the water cannon from any computer via a secure web connection. The app includes the ability to customize user experience, add functions, change language settings, and more.

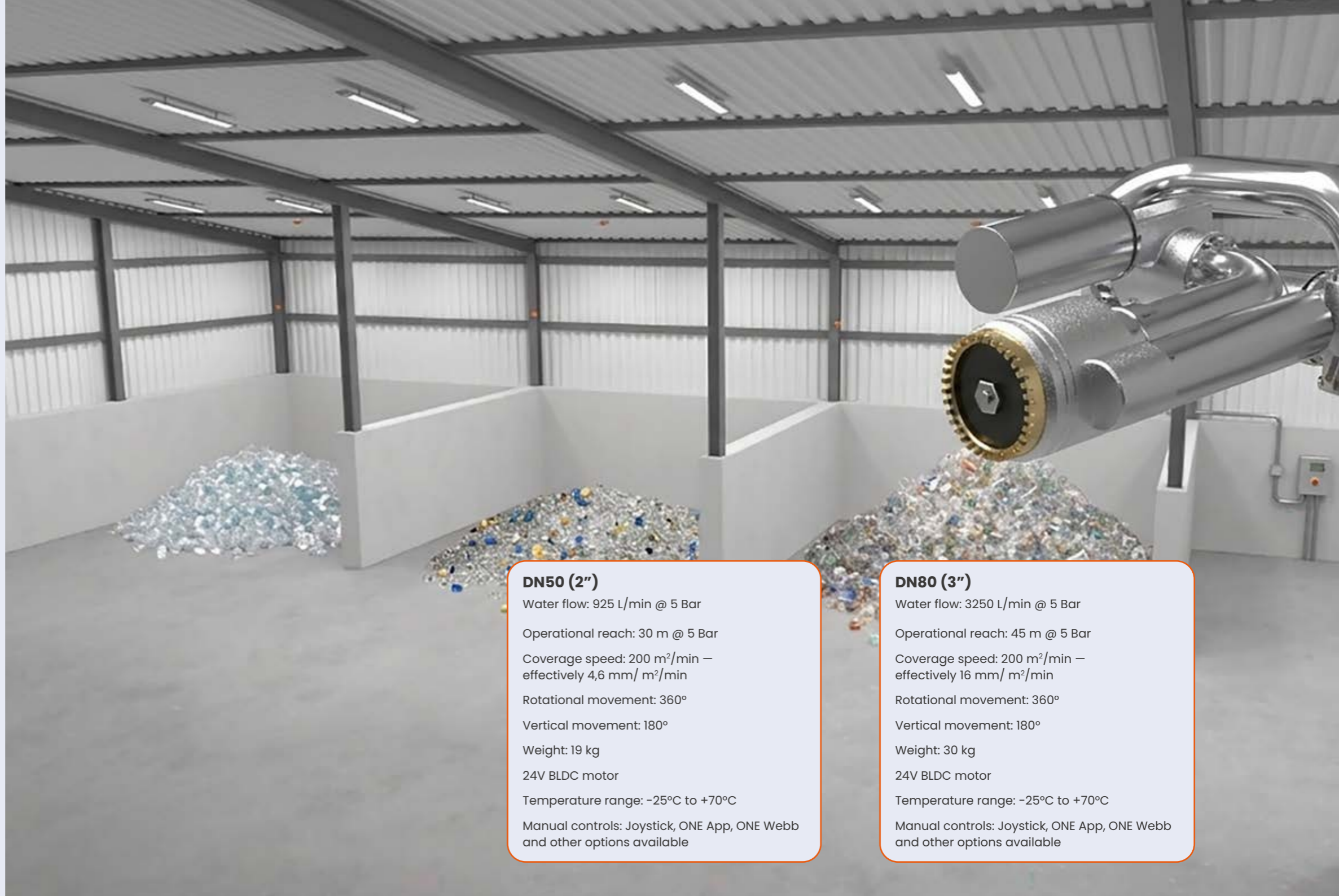
Precisely Targeted Response: Advanced robotic nozzle delivers up to 5000 liters per minute, dynamically adjusting its spray pattern.

False Alarm Reduction: Firefly's well-known flame detectors' patented solution reduces the risk for false detections while ensuring reliable performance in demanding industrial environments. Proven in hundreds of recycling facilities worldwide, they are designed to operate in harsh conditions with temperature ranges from $-40\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$.

Scalable & Networked: Multiple cannons can be networked for coordinated protection across large or complex facilities, all monitored through a secure graphical user interface.

Features at a Glance

- ⊗ 2 models depending on range and flow requirements.
- ⊗ DN50 925 lpm @5bar.
- ⊗ DN80 3250 lpm @5bar.
- ⊗ Fully automatic, autonomous operation with option for manual intervention
- ⊗ Features industrial-robot-type brushless DC (BLDC) motors which offer high efficiency, energy saving, longer lifespan, and high reliability.
- ⊗ Low maintenance, which can be included in your Firefly service contract.
- ⊗ Up to 4 simultaneous fire detections.
- ⊗ Robust stainless steel 316L construction for harsh environments.
- ⊗ Manufactured in Scandinavia with the highest quality specifications in the industry.
- ⊗ Tested product. More than 100 cannons in operation on 5 continents.
- ⊗ ISO 9001 certified manufacturing



DN50 (2")

Water flow: 925 L/min @ 5 Bar

Operational reach: 30 m @ 5 Bar

Coverage speed: 200 m²/min –
effectively 4,6 mm/ m²/min

Rotational movement: 360°

Vertical movement: 180°

Weight: 19 kg

24V BLDC motor

Temperature range: -25°C to +70°C

Manual controls: Joystick, ONE App, ONE Webb
and other options available

DN80 (3")

Water flow: 3250 L/min @ 5 Bar

Operational reach: 45 m @ 5 Bar

Coverage speed: 200 m²/min –
effectively 16 mm/ m²/min

Rotational movement: 360°

Vertical movement: 180°

Weight: 30 kg

24V BLDC motor

Temperature range: -25°C to +70°C

Manual controls: Joystick, ONE App, ONE Webb
and other options available



Easy Upgrade or Add-On to the Firefly Eximio System

Unlike standalone systems, the Firefly Automated Water Cannon is integrated into the Firefly system, documentation, and engineering. Expand your fire protection to new areas or enhance your current coverage with the industry's most advanced robotic fire suppression technology.

Learn More & Protect Your Facility

Firefly delivers complete integrated solutions, including engineering, system design, documentation, commissioning, and after-sales support through its global network.

Firefly protection for large areas uses components proven in facilities worldwide, has been extensively and scientifically tested by world-class labs, and is built for the harshest environments.

Contact Firefly today to discover how the Firefly Water Cannon can transform your fire safety strategy and deliver peace of mind. For technical specifications, integration details, or support, reach out to our expert team.

[Click here to read more online](#)

Frequently Asked Questions: FAQ

Why fully automatic instead of operator-controlled systems?

The Firefly Automated Water Cannon is designed to act immediately and without human intervention.

- ⊕ Fire detection, targeting, and suppression happen within seconds.
- ⊕ No dependency on operator availability or reaction time.
- ⊕ Consistent performance, even during night shifts or unmanned operation.
- ⊕ In fast-growing fires, those first seconds are often decisive. Automation ensures that no time is lost.

Are there any recurring monitoring costs?

No. The Firefly solution is designed as a self-contained, autonomous system:

- ⊕ No external monitoring subscription required.
- ⊕ No ongoing service fees for activation or operation.
- ⊕ Full control remains with the customer.
- ⊕ This provides predictable ownership cost and independence from third-party services.

Is it safe to use high-pressure automated water cannons in industrial environments?

Yes. The Firefly Automated Water Cannon is designed with operator safety in mind.

- ⊕ It typically operates at a nominal pressure of around 5 bar, a well-established level common in industrial applications.
- ⊕ Studies indicate potential health risks at pressures above 12 bar, while the Firefly system operates well below that range.
- ⊕ Operating pressure can be adapted to specific project requirements if needed

Why use water instead of foam?

The Firefly Water Cannon uses water as the primary extinguishing agent, offering several advantages:

- ⊕ Environmentally friendly – no chemical additives.
- ⊕ No need for collection or special disposal after activation.
- ⊕ Simplifies compliance with environmental regulations.
- ⊕ Reduces operational complexity and cleanup.

This makes the system particularly suitable for recycling facilities, where environmental impact and residue management are key considerations. By customer request, foam can be used instead.

Is there a risk that the water cannon could spread the fire?

It depends on how suppression is applied.

If a high-pressure jet is directed immediately and directly at an active flame, there is a risk that burning material can be dispersed, potentially spreading the fire.

For this reason, the Firefly Water Cannon is engineered with controlled suppression strategies:

- ⊕ The system can be programmed to first wet the surrounding area.
- ⊕ This helps contain and stabilize the fire.
- ⊕ After control is established, the system targets the core of the fire.

With advanced control of spray patterns and movement, the system ensures that suppression is both effective and controlled, minimizing the risk of fire spread.

How is the water density dimensioned?

Currently, there is no specific international standard defining water density requirements for robotic water cannons in these types of applications.

To ensure a reliable and well-founded design, hydraulic calculations are typically aligned with NFPA 13.

The system is engineered based on:

- ⊕ The defined risk areas.
- ⊕ Application type.
- ⊕ Expected fire load and operating conditions.

As with all fire protection systems, it is recommended that the defined design criteria and fire load assumptions are reviewed by the customer to ensure alignment with site-specific requirements.

Which factors determine the max range of the water cannon?

The coverage area changes with the cannon operating conditions such as pressure (P), height (H₀), elevation angle, initial cone angle, and horizontal reach radius[®]. For example, the coverage area can increase with a narrow cone angle when the spray is changed from a solid stream to a wider mist

What performance can I expect from the system?

- ⊕ DN50: With a range of up to 38m and a capacity of 1600 L/min at 8 Bar. Nominal range of 30m and a capacity of 1000 L/min at 5 Bar.
- ⊕ DN80: With a range of up to 53m and a capacity of 4000 L/min at 8 Bar. Nominal range of 45m and a capacity of 3200 L/min at 5 Bar.

About Firefly

Firefly is a Swedish company that provides industrial fire prediction, prevention and protection systems to the process industry worldwide. For more than 50 years, 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 and production output.

Firefly solutions for the waste and recycling industry

- More than 420 active customers in the recycling industry.
- Recycling customers have tested the system in 69 countries.
- More than 320 shredders protected.

As a Firefly customer you receive



A partnership with our fire prevention teams around the world.



Technical innovation in fire prevention and protection.



Digital progression based on robust safety systems.



Fire prevention and protection through certified technology.

We have Firefly customers from multiple industries all over the world



Firefly customers in over 90 countries



FireflyCustomers



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