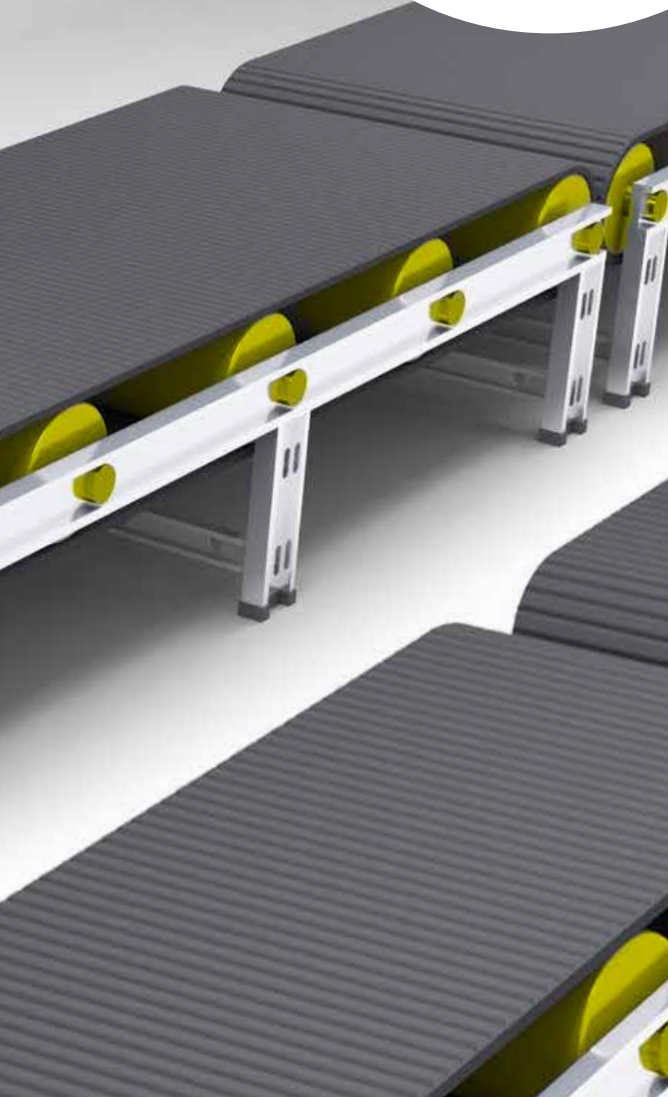


BECAUSE WE BELIEVE IN THE VALUE  
OF MEASURED PROTECTION.

THE MOST ADVANCED SYSTEMS FOR  
SECURITY AGAINST THE MOST DELICATE HAZARDS



# **W-FOG System** for the protection of **CONVEYOR BELTS**

# WATER MIST ON CONVEYOR BELTS

The transport of materials on conveyor belts, which is frequently found in different type of industries like processing, operational or series assembly – makes quicker and easier these jobs, although, from the point of view of fire protection, these are a significant hazard worth considering.

The fires originating therein are dangerous because of continuous movement resulting in the rapid spread. In parallel, there is a real hazard of contagion to other sectors, processes or surrounding equipment which, depending on the type of combustible material, the extinction tasks may take many weeks.

RG W-FOG makes possible the controlling and suppressing the various types of fire hotspots and at different location. The equipment can be centralized for simultaneous

protection of both motors as well as conveyor or critical points of the chain (furnaces exit, ducts, stockpiling and warehousing etc.)

The great advantage of the RG W-FOG equipment lies in its harmlessness and action speed. With the appropriate detection, it is possible to act immediately on the outbreak without needing the damper closure times or evacuation of the present staff.

This way it actually the agent only that can act locally in unconfined spaces without prior eviction of the occupants.

This fact reduces the likelihood of the further spreading of the fire, without prerequisites that slow down the onset. Since it is about mobile fire, it becomes a determining factor.



# WHY USE RG W-FOG IN TRANSPORTING CONVEYORS

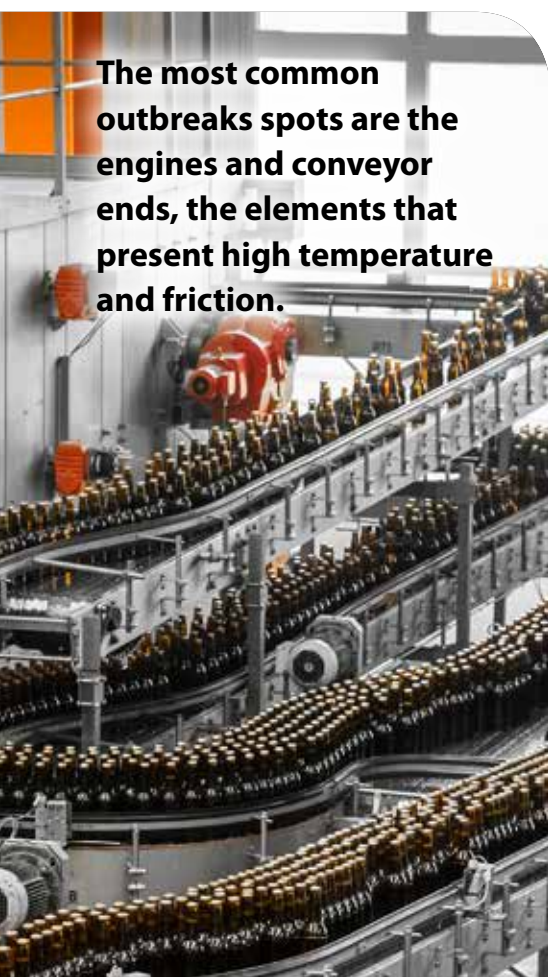
RG W-FOG incorporates to the known extinguishing properties of the water the most advanced technologies to provide optimised extinction based on:

- **Minimal drop size:** the surface area is increased, achieving a maximum rate of heat absorption.
- **Reduction of equipment:** up to 90% less water is required, with which storage, piping and systems are ostensibly optimised.
- Production of vapour, which blocks the contact between comburent agent (O<sub>2</sub>) and fuel.
- **Fast action,** minimising damage on documents and avoiding damage to the building's structure.



# CAUSES OF FIRE

## IN TRANSPORT CONVEYORS



**The most common outbreaks spots are the engines and conveyor ends, the elements that present high temperature and friction.**

It is important to prevent accumulation of lubricants, dirt and the materials accidentally spilled on the sides. In the event of coming in to contact with sparks or overheated engine components or rollers, this may give rise to fire.

### **The impacting factors when considering the comprehensive protection are:**

Protection of the supporting substructure, non-combustible, but vulnerable to high temperatures

Good maintenance, avoiding excessive wear on belts, the accumulation of residues and misalignments (sources of friction)

Ventilation control and installation of suitable sensors (moving loads)

Monitoring and prevention if work is being carried out in close proximity. Avoid if possible

Special attention to the inclined elements, connecting points and mobile equipment

Since installations with conveyor belts are generally of bigger extension, RG-Systems offers manual solutions based on the high performances of water mist:

The portable equipments with fog nozzles are integrated in professional or industrial vehicles for

the quick transfer and are laced with: high-pressure pump unit, tank, hose of various lengths and fog nozzle. They are the ideal solution provided for additional protection of large capacity and reach.



Also the material being transported is a frequent source of fire. In case of jams or diversions, the friction produced by the belt generates heat that quickly passes on to the transported material (fuel, raw materials, packaging, and products). This material continues its journey, spreading the fire and being fed from the fuel spilled around the belt itself and from the ventilation usually present, which greatly hinders the detection, control and effective extinction of outbreak spots.

Therefore, within the design considerations and the benefits of using water mist:

- The minimum drop size and high pressure discharge ensures a very high capacity to penetrate the focus of the fire
- Evaporation is very effective in absorbing lot of energy locally displacing oxygen and hindering combustion
- The high suspended permanence of the fog prevents reigniting
- Its action is effective without sealing of area concerned, being able to act in the presence of ventilation

## COMPONENTS

### Pumping units + tanks:

made up of control panel banks, collector and positive displacement pumps:

- ELECTRICAL RG W-FOG UAP
- DIESEL RG W-FOG UAPD
- MIXED WITH DIESEL AND ELECTRIC PUMPS

These are: principal (s), auxiliary (facultative) and jockey (wet pipe and pre-action). The setting is adjustable in number and power, based on the demand.

### Diffusers or spray nozzles:

RG-Systems has specifically tested open nozzle for local application to protect hazards as well as closed nozzle with bulbs for total flooding of rooms and evacuation routes.

### Control valves:

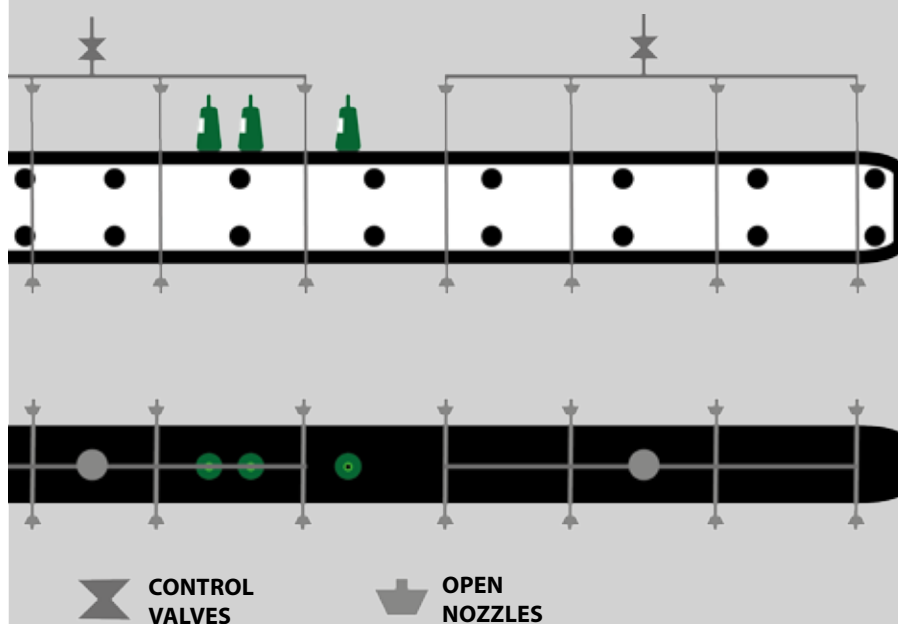
allow routing of the agent to various hazards, for protecting various other sectors with a single device.

### Section valves:

detect the passage of water, send signal in the sector where there has been a discharge.

## INSTALLATION EXAMPLE

The RG W-FOG Systems equipment can be configured according to the protection needs of each station. One pumping unit can simultaneously cover numerous distant rooms, so the overall cost goes down. Reduced water consumption (down to -90%) besides the reduction of pipe diameters and storage space.



**Local application:** For the protection of unconfined outbreak spots, (such as machinery) or if ventilation is high. It is acting only on the element involved

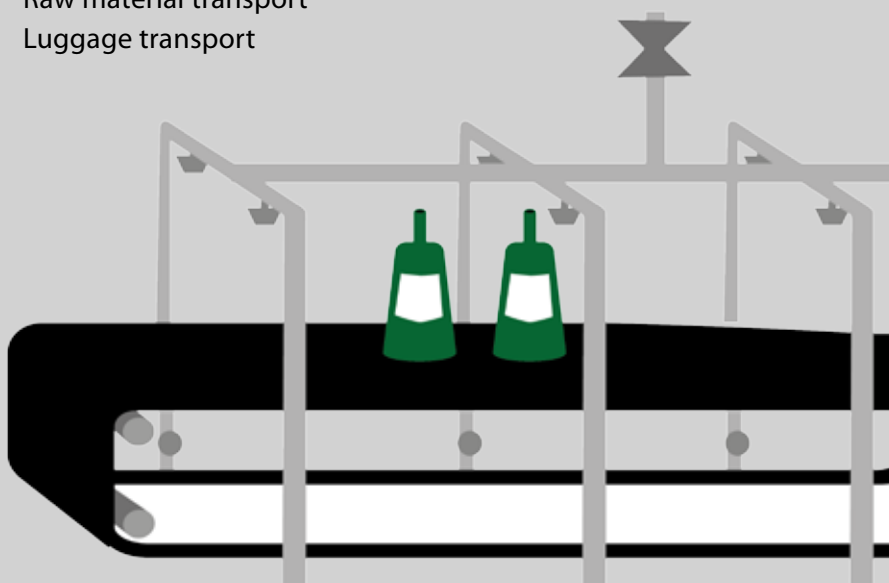
### The protection includes three levels:

- Material transported on belts
- Protection among belts
- Underside and around (spills)



The fog produced by RG W-FOG is inert, non-polluting, does not damage the property or equipment and has a high permanence in the atmosphere, preventing it from igniting again. Its use is recommended for multiple applications within the sectors where the conveyor belts are being used both in light (processing) as well as heavy applications (operational)

- Production and assembly chains
- Mining operations
- Raw material transport
- Luggage transport



For immediate action, these come with control valves and open nozzles. In case of positive detection, the discharge starts in the affected previous and next area.

Proper design covers both the surface of the conveyor as well as the intermediate components and bearings. One last row of vents in the lower part guarantees the protection of the supporting structure as well as around the possible sources of fire which is majorly due to accumulation of debris or spilled product.

The equipment can be centralized to simultaneously protect both motors and belts or critical points in the chain (ovens, conduits, couplings and storage, etc.)

The transport of materials on continuous belts – which are frequently found in manufacturing industries, exploitation or serial assembly lines -, speeds up and facilitates these activities. However, from the point of view of the protection of fires, they are an important risk to consider.

## GUARANTEE AND CERTIFICATIONS

All of the products have approvals and suitability statements according to trials in internationally recognised bodies.



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**THINK  
GREEN**