

BECAUSE WE BELIEVE IN THE VALUE  
OF MEASURED PROTECTION.

THE MOST ADVANCED SECURITY SYSTEMS FOR THE  
MOST DELICATE HAZARDS.



**W-FOG SYSTEMS**  
for the protection of

**TRANSPORT  
AND INTERCHANGE  
STATIONS**

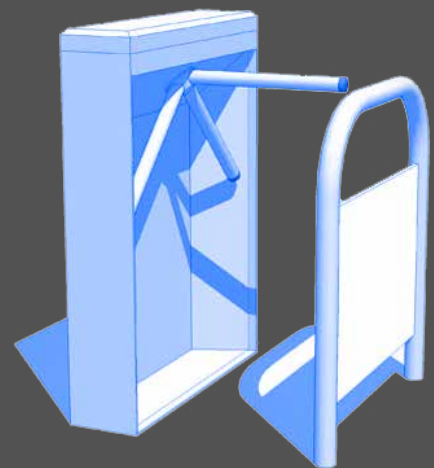


The train and metro infrastructures allow mass transport of users in most cities, especially BIG ones. They are enclosed spaces with various levels in surface or underground, requiring special conditions of evacuation and fire protection.

All the surfaces with no movements, associated access or use have to be sectorized and protected, so that the evacuation routes meet a certain times and lengths.

**The security of a large number of people is the critical** factor to consider in the design. Any fire originated in the various hazardous areas or extended from the tunnels or trains can cause panic situations and agglomerations which hinder the evacuation.

RG-Systems has the high pressure water mist W-FOG technology for controlling and suppressing the fire, so that its growth slows down and further spreading is prevented while **evacuation time is increased through the reduction of emissions and clearing of the atmosphere.**





# WATER MIST

## IN TRANSPORT PLACES

Characteristics / Requirements / Features

High occupancy, massive during peak times

Protection of users

**Harmless agent**, does not reduce oxygen.  
Proven effectiveness: real scale tests, launching tests

Evacuation with additional problem

Minimizing feeling of danger

Clean atmosphere, good visibility.  
Stops emissions, pulls smoke and pollutants.

Highly variable premises. Numerous local ones of special hazard

Flexible and adaptable system

**Specific and general protection** (mechanic escalators, transformers, technical rooms, etc.)

Costly and problematic down time

Damage limitation

Blocks radiation, preventing the fire from spreading.  
Local inertization.

False alarms, vandalism

Avoid deterioration of goods

**Minimal damage:** mist type discharge, without inundating rooms or affecting the property.  
Antivandalic components

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** and avoiding damage to the building's structure.



# CAUSES OF FIRE AT TRANSPORT PLACES

Frequent uses in a station or transport interchange are:

## **ORDINARY HAZARDS:**

- *Hallways and corridors*
- *Platforms*
- *Control rooms*
- *Trade and catering*
- *Warehouses*

## **SPECIAL HAZARDS:**

- *Transformers*
- *Generators*
- *Air conditioning*
- *Escalators and ramps*
- *Other facilities*

In these areas numerous sources of hazards and potential fire spots are located. Within the causes, the following stand out as the most common:

## **MAINTENANCE:**

dust or combustible materials near sources of heat, garbage, inadequate maintenance or cleaning.

## **EXTERNAL CAUSES:**

train accidents, dumping of combustible liquids, lightning, landslides.

## **USERS:**

carelessness, negligence and vandalism



## **ELECTRICAL**

## **INSTALLATIONS:**

sparks, short circuits, defects and overloading

It is essential to act quickly on the outbreak, limiting its growth through mass heat absorption of water mist and prevent further growth and it recrudesce thereby reducing the rate of heat release until the arrival of the manual means.







## RG W FOG PROTECTION IN TRANSPORT PLACES

The most significant constraint when designing a fire protection system in a transport station or interchange is the **safety of users**.

These are numerous and generally not familiar or briefly- with the building where these are located. It is therefore essential that panic or lacks of control situations are avoided.



Because of their nature, public buildings with high turnout have **high ceilings and large open spaces**. The venues do not need to be independent and closed with respect to each other, but rather it is usual that they are connected by wide corridors and lobbies.

***RG W-FOG operates immediately without needing sealing, not allowing the progression of the fire and protecting the structure of the station with its great capacity for heat absorption.***

This, coupled with the high density of equipment and machinery (vehicles, engines, generators, electricity, air conditioning, air renewal, surveillance, security, etc., including fuel) notably increases the risk of fire.

RG-Systems has several international certifications approving its use in public spaces, machinery, high altitudes, plant and machinery.

***THE CLARIFICATION  
OF THE  
ATMOSPHERE AND  
GOOD VISIBILITY  
THAT PRODUCES  
WATER MIST IS  
SUITABLE FOR A  
SAFE EVACUATION.***

**ON FACING THESE  
CONSTRAINTS THE  
EQUIPMENT RG W-FOG  
RESPOND EFFECTIVELY,  
ALLOWING A SINGLE PUMP  
UNIT TO PROTECT AN ENTIRE  
STATION, OR CYLINDERS  
BATTERY FOR SPECIFIC  
POINTS.**

# COMPONENTES

## CYLINDERS BATTERY

composed of water bottles propelled by nitrogen, which are mainly used in protection a. It's supplied fully equipped and on-demand of the agent's design in 40, 67, 80 or 140 L cylinders

## PUMPING UNITS + TANKS

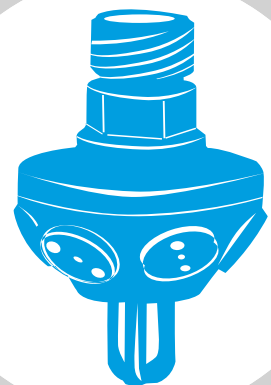
made up of control panel banks, collector and positive displacement pumps:

- 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.



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.

### CONTROL VALVES:

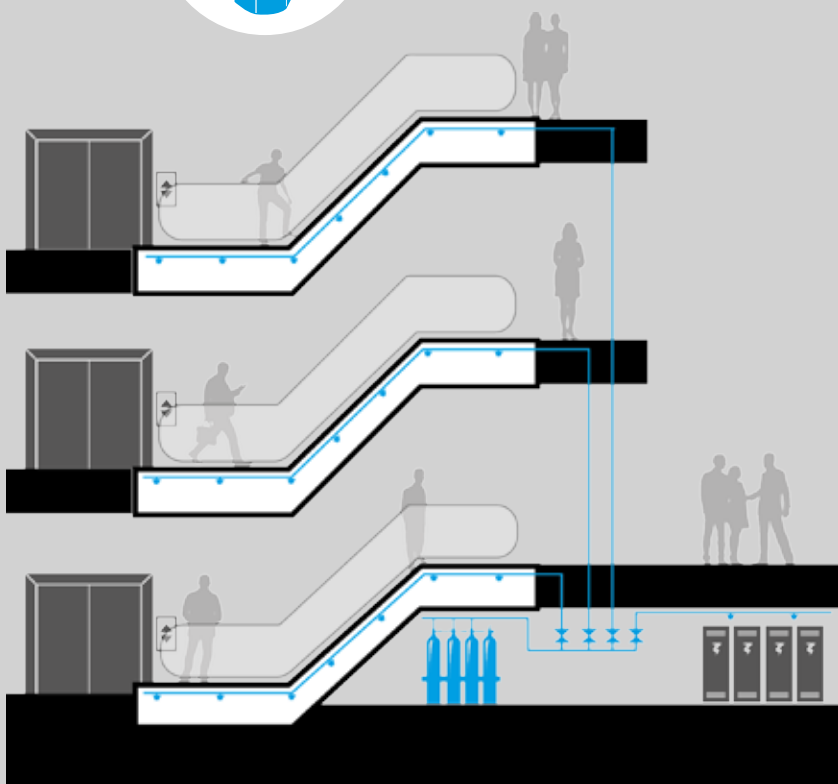
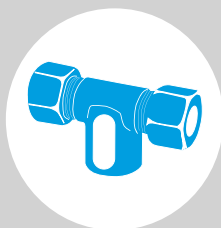
allow routing of the agent to various hazards, for protecting various other sectors with a single device.

### SECTION VALVES:

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

### DIRECT ACCESSORIES

direct, reducers, etc. for a quick, compact and prefabricated assembly, with less no of components.



## APPROVALS

RG-Systems guarantees the suitability of its W-FOG equipment with detailed studies and components accredited by international certifying entities of recognised prestige.

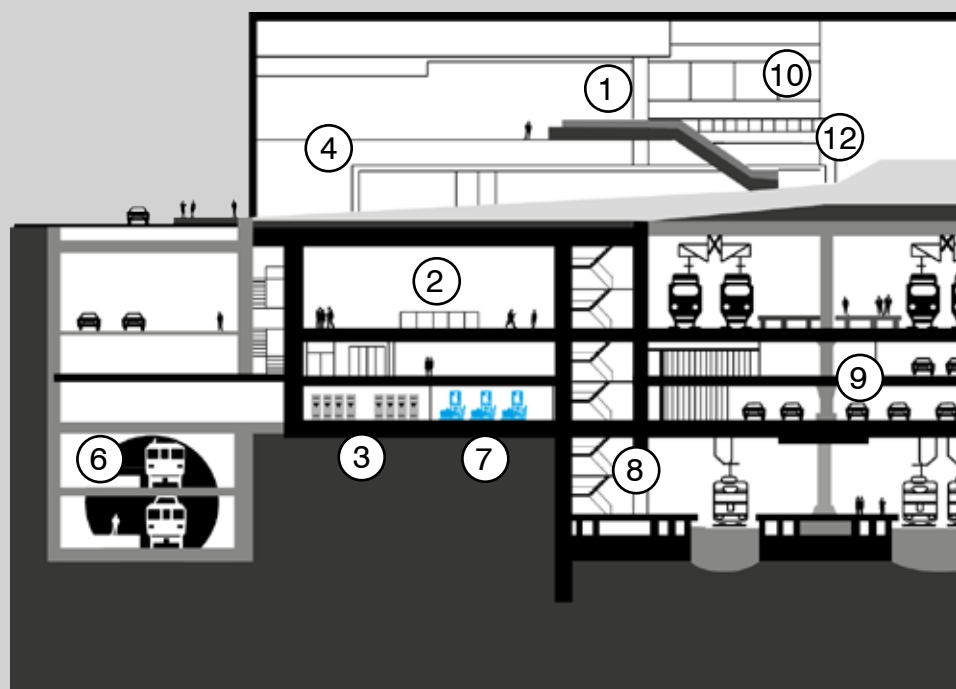




### LOCAL USE:

For the protection of regular outbreak sources, not confined to (such as machinery) or if ventilation is high. It actions only on the element implicated

- ① **ESCALATORS AND MECHANICAL RAMPS:**  
are usual outbreaks points, with high fire load and integrated communication paths and / or evacuation.
- ② **AIR CONDITIONING MACHINERY:**  
adds to the spread of smoke, hot, toxic gases and the fire itself.
- ③ **TRANSFORMERS AND GENERATORS:**  
which can affect the operation of the entire station.

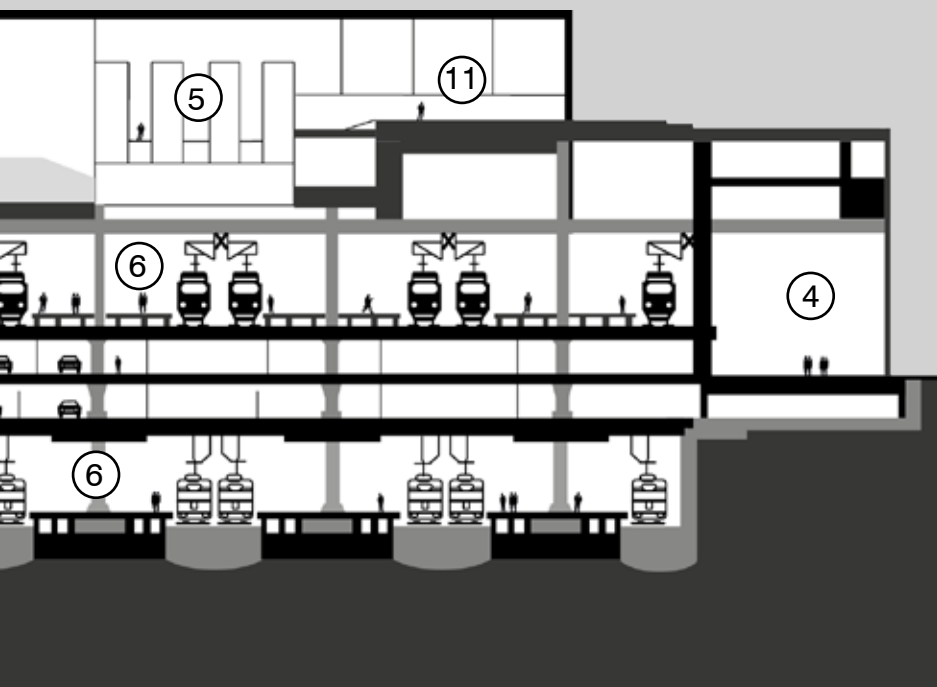




### TOTAL INDUNDATION:

Provides comprehensive protection of the entire volume, including conduits and communicating spaces. The best option is to use pumping units with control valves that route the agent to the affected sector.

- |                         |                     |                            |
|-------------------------|---------------------|----------------------------|
| ④ CORRIDORS AND LOBBIES | ⑦ PCI INSTALATIONS  | ⑩ SECURITY ROOMS           |
| ⑤ COMERCIAL AREA        | ⑧ EVACUATION ROUTES | ⑪ RESTAURANTS              |
| ⑥ PLATFORMS             | ⑨ PARKING           | ⑫ RAISED FLOOR AND CEILING |



# COMMITMENT

**PROJECT**

**INSTALLATION**

**MAINTENANCE**

**AFTER SALES**

**TRAINING**

C. Alfoz de Bricia, 4 P.I. Villalonguéjar  
09001 BURGOS (SPAIN)

Tlfno. +34 947 28 11 30

Fax. +34 947 28 11 12

[www.rg-systems.com](http://www.rg-systems.com)

