

# How to Prevent Sparks and Fires in Gravure Printing?

Prevent fires caused by static sparks in gravure printing processes with Dry Fog Humidifiers from IKEUCHI.



check it out !



**Mitigate a risk of fire and ensure workers' safety in gravure printing factories with Dry Fog.**

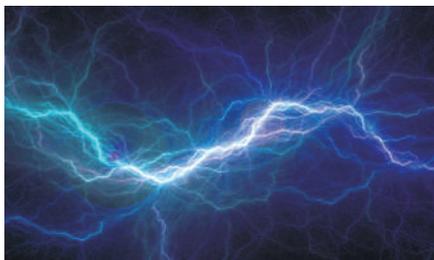
**Dry Fog Humidifier  
AKIMist®**

## 1 Risk of a fire in a gravure printing factory

Each winter at a gravure printing factory, static electricity buildup around their printing presses led to intermittent problems with sparks and small fires at the ink pans.

Fortunately, there had not yet been any major fires, but should such a fire break out and wreak havoc on several presses in the factory, such a fire could be disastrous for them.

This threat drew the attention of the local fire department and the factory was pressed to take measures to prevent such a risk from becoming reality.



## 2 A challenge in humidifying a gravure printing space

They knew that humidification should help prevent static electricity from being generated.

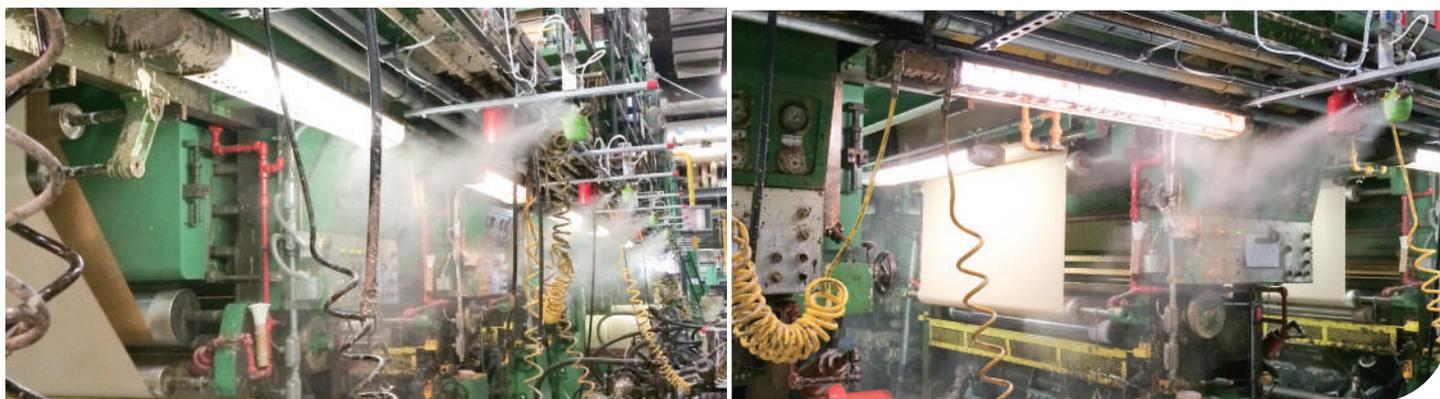
However the challenge was that, at a gravure printing factory, humidifying a large space and keeping adequate humidity level across the entire space was extremely hard.

This is because local ventilation systems there continuously exhaust a large volume of indoor air including evaporated organic solvents, while simultaneously taking in the same volume of dry outdoor air.

## 3 Spot humidification: an effective humidification approach with Dry Fog

What IKEUCHI proposed to address this challenge was the "spot humidification" approach by spraying non-wetting Dry Fog\* directly towards the ink pans, the source of ignition, from a close distance to effectively increase local humidity just around the pans.

\*A fog consisting of very fine water droplets produced with specialized spray nozzles, with a mean diameter of 10 μm or less, rebounds from an object it hits and instantly evaporates into air without bursting and adhering to the object.



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### Mitigating a risk of fire and ensuring workers' safety

In considering the installation of the spot humidification with Dry Fog Humidifier, the factory manager requested us to conduct demonstration of the system in the presence of the firefighters in order to ease the fire department's concerns. It was set up with two nozzles towards the ink pan, and the increase in humidity and reduction of static electricity were measured.

As the relative humidity increased from 35% to 50%, the electrostatic charge decreased from 20 kV to 4 kV, or 1/5 of its previous value. The firefighters, now convinced that this would aptly curb the danger of a large fire breaking out, strongly commended the results.

Installation of Dry Fog Humidification has mitigated the risk of fire seriously damaging the facility and endangering the workers' safety.



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### Dry Fog Humidification System ensures print quality

Not only preventing a fire, Dry Fog Humidification also maintains good print quality by suppressing airborne particles, reducing dust attraction to the plastic film surfaces and avoiding print failures such as ink streaking due to foreign particles get caught between the doctor blade and the roller.



## Product Details

# Dry Fog Humidifier | AKIMist®

## A non-wetting Fog for indoor humidification

AKIMist® from IKEUCHI actively used for humidity control in a wide range of industries produces "Dry Fog", formed out of very fine water droplets with a mean diameter of 7.5 μm or less, also called ultrafine mist or "non-wetting fog".

Dry Fog which evaporates into air before it reaches surface of objects makes it possible to humidify a room without wetting products and equipment. Dry Fog sprayed from each nozzle, reaching over four meters, enables one unit of AKIMist® to cover a wide area.



For inquiries, requests for materials, demonstrations, and estimates, please contact below.  
If you tell us that you have seen this interview leaflet, we can respond smoothly. Please feel free to contact us.



"The Fog Engineers"  
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