WATER MIST BY THE INNOVATIVE MAKLAD- INJECTOR

Without compressed air

Mist (Water/2bar, Air/4bar)

Water mist occurs when water vapour in the air condenses to small droplets. This dense mixture of water in air has many benefits in the following applications:
Fire control, dust binding, air purification, spray drying, cooling, snow making, gas scrubbing

Fire-fighting:
Heat transfer from the fire to the small water mist droplets is significant causing the droplets to evaporate and the fire to be quickly suffocated. The fire remains dry and water damage is thus avoided. The strong cooling effect of the mist protects fire fighters from the heat radiation.

Fine dust binding:
The water mist droplets have the same order of magnitude as fine dust particles as they both float in air. The extremely fine dust particles adhere to the water droplets and together they form a larger droplet, which falls to the ground quickly. Dust binding takes place with minimum water consumption.

High pressure systems:
Conventional water mist systems are generally high pressure where the water is sprayed through a fine nozzle at high pressure to create small droplets. They consume much energy and the fine nozzle requires filtered water to avoid blockages. They are expensive systems.

MAKLAD SYSTEM:
The Maklad system is a patented innovative technology being applied to the creation of a water mist. The device, which is an Injector, accelerates compressed air to a supersonic speed. The accelerated air sucks in a water stream, which is mixed with the air. The air and water mixture continues to flow from the Injector at supersonic speed forming very fine droplets of water mist.
The speed of sound in air is approx. 340 m/sec. and the speed of sound in water is approx. 1500 m/sec. The speed of sound in an air and water mixture is less than 20 m/sec thus the energy required to produce a supersonic region in a Maklad Injector is very low. The Injector creates a fine mist with 2 bars of water and 4 bars of air whereas a high-pressure system requires pressures of up to 200 bars to create a similar structured water mist.

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