VDL Industrial Products
Part of your solution

Dust control with the UMID system

Our passion for dust control, VDL Industrial Products being a leading supplier of components for dust extraction systems and explosion protection systems, led to the development of an innovative fogging system for a wide range of applications. The UMID system is tailor-made for every situation. It helps achieving a healthier working environment and reduces the risk of dust explosions.

A healthy and safer working environment

Where there is a dusty atmosphere and work is carried out, problems can arise with the health of employees due to the constant inhalation of fine dust particles. The standard EN481:1994 defines the conventions on particle size of dust in the air at the workplace. Silicosis (lung disease) is not without any reason the oldest work related disease. The consequences are unfortunately noticed at a late stage. The creation of a clean working environment is the responsibility of the employer, but it also brings benefits: less absence of personnel, a more pleasant and safer working environment, cooling as a result of the adiabatic effect, less odour nuisance and (in the case of combustible dust) also a reduced risk of fire and/or dust explosions.

Solutions for dust control

Naturally, extraction systems are very effective at extracting dust and material at the source. However, this is not always the most practical solution and sometimes even very expensive. The UMID misting system can be a good alternative or addition, especially where a filter installation is difficult. By using nozzles that atomise water in a very fine mist, dust particles are bound and fall down by gravity and do not remain suspended in the air.

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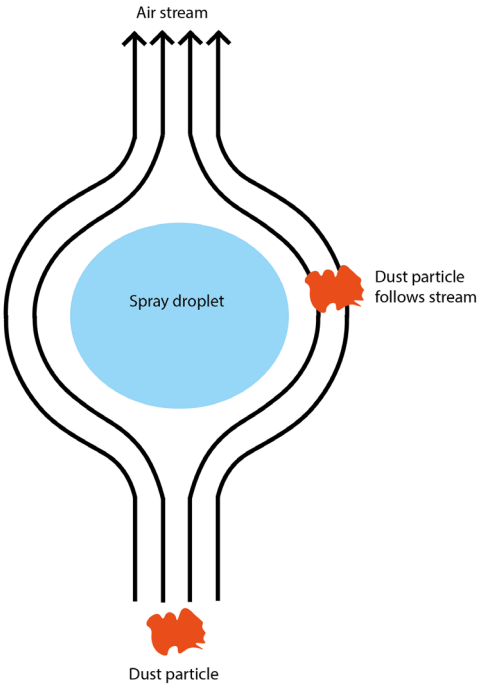
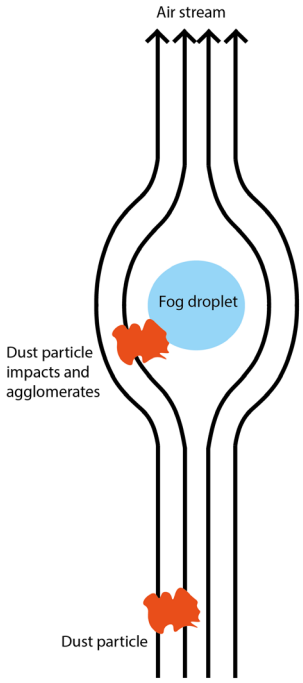
The technique of a fogging system

The effectiveness of a fogging system requires a plan of action, but above all good technology. The patented UMID nozzles do not work on the commonly used principle of pushing water through a orifice or against a target pin with a lot of pressure. That requires more pump capacity and is a waste of energy. The UMID nozzle is based on the tornado principle, whereby the water in the nozzle is put into a rotating movement with a very high rotation speed. The high kinetic energy while exiting makes the droplets spread very finely and homogeneously. What is important for the effectiveness of binding of dust particles is that the droplets are of equal size. If the droplets are too large, the dust particles will follow the air flow around the water droplet without binding. This quickly happens with misting systems that mix water with air in the nozzle. The UMID system does not cause wetness and dripping nozzles.





System composition

The system for dust control usually consists of one or more pumps, controls, water filters, UV lamp (to prevent legionella), water softener, stainless steel piping and of course the patented UMID nozzles.

Application areas:

- Process dust suppression
- Transfer points such as conveyors, chutes
- Drum screens
- Material storage, workshops

Industries:

- Minerals, cement bulk materials
- Waste processing, recycling
- Vegetable processing
- Weaving mills, flax processing

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