Odour and Dust Control

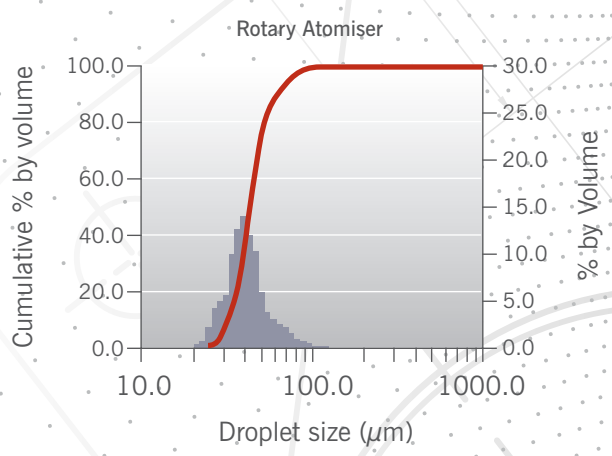
Droplet size is of major importance when choosing an odour and dust control solution.

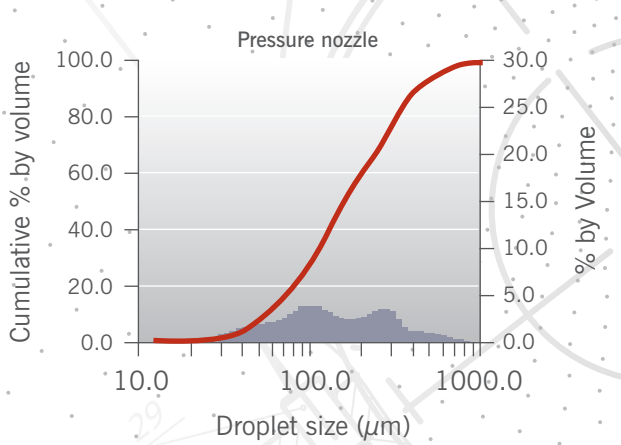
Droplets which are too small may quickly disperse, reducing the effectiveness of odour and dust solutions. Larger droplets rapidly fall out of the air and are wasted. They are also less efficient at intercepting small airborne dust or odour generating particles – often referred to as the slipstream effect.

For effective and efficient odour and dust control, Micron's industrial atomisers can deliver the optimal spray droplet sizes to maximise airborne particle capture and neutralisation using very small droplets in the range 40-50μm Volume Median Diameter (VMD). A reduction in diameter of droplets by a factor of 4 leads to a 64-fold increase in the number of droplets. This increases the likelihood of droplet-particle interaction.

Rotary atomisers select ONLY the appropriate droplet size for odour and dust suppression – while significantly reducing water volumes. Less volume and less waste.

Example of a rotary atomiser droplet spectrum versus a hydraulic nozzle droplet spectrum



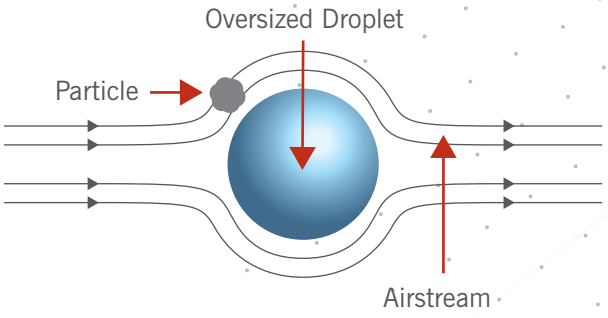


Precise control of droplet size as a mist means vastly greater numbers of droplets from a given liquid volume and that droplets remain airborne and do not fall rapidly to the ground. This improves the effectiveness of odour and dust control. Each unit operates at flow rates up to 180 litres per hour, capable of giving mobile systems an entire day's operation without any refilling of water required.

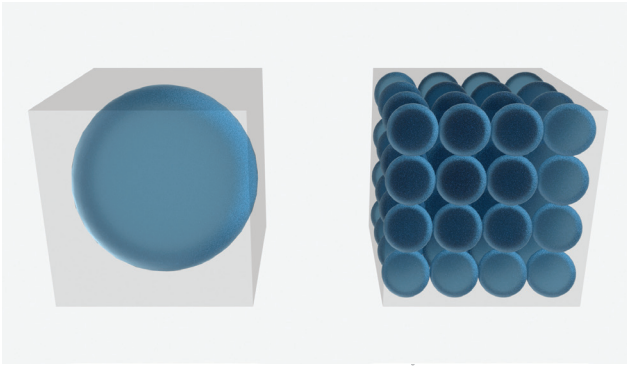
With no air compressors or high-pressure pumps required, the Micron industrial range offers low energy requirements and simple maintenance for both mobile and fixed installations.

Units have been successfully deployed in materials recycling facilities, landfill, composting sites, animal sheds, wastewater treatment facilities, manufacturing and more.

The slipstream effect



Same liquid volume, ¼ droplet diameter 64x the number of droplets



Droplet Diameter (μm)	Number of drops/cm³*	Fall time
500	15	1.6 s
400	30	2.2 s
300	71	3.0 s
250	122	3.4 s
200	239	4.2 s
150	566	6.1 s
100	1,910	10.9 s
75	4,527	25.0 s
50	15,279	40.5 s
25	122,231	180.0 s

*as 1 litre of water dispersed in 1000m³ air

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