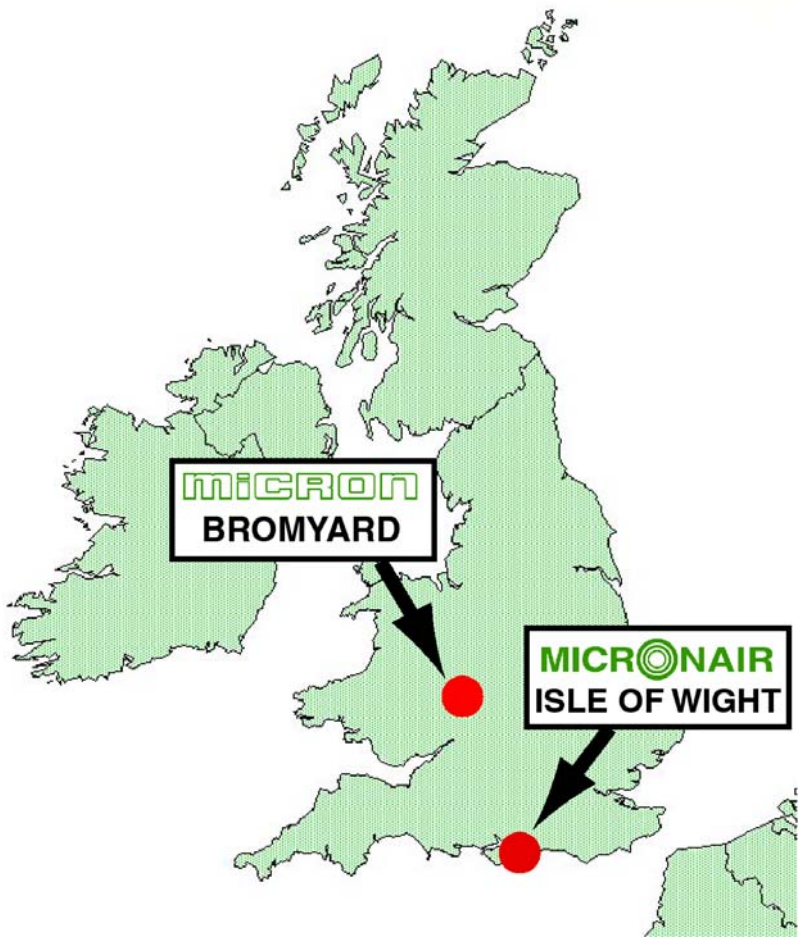
MICRONAIR
AU5000LD ATOMISER

MICRONAIR

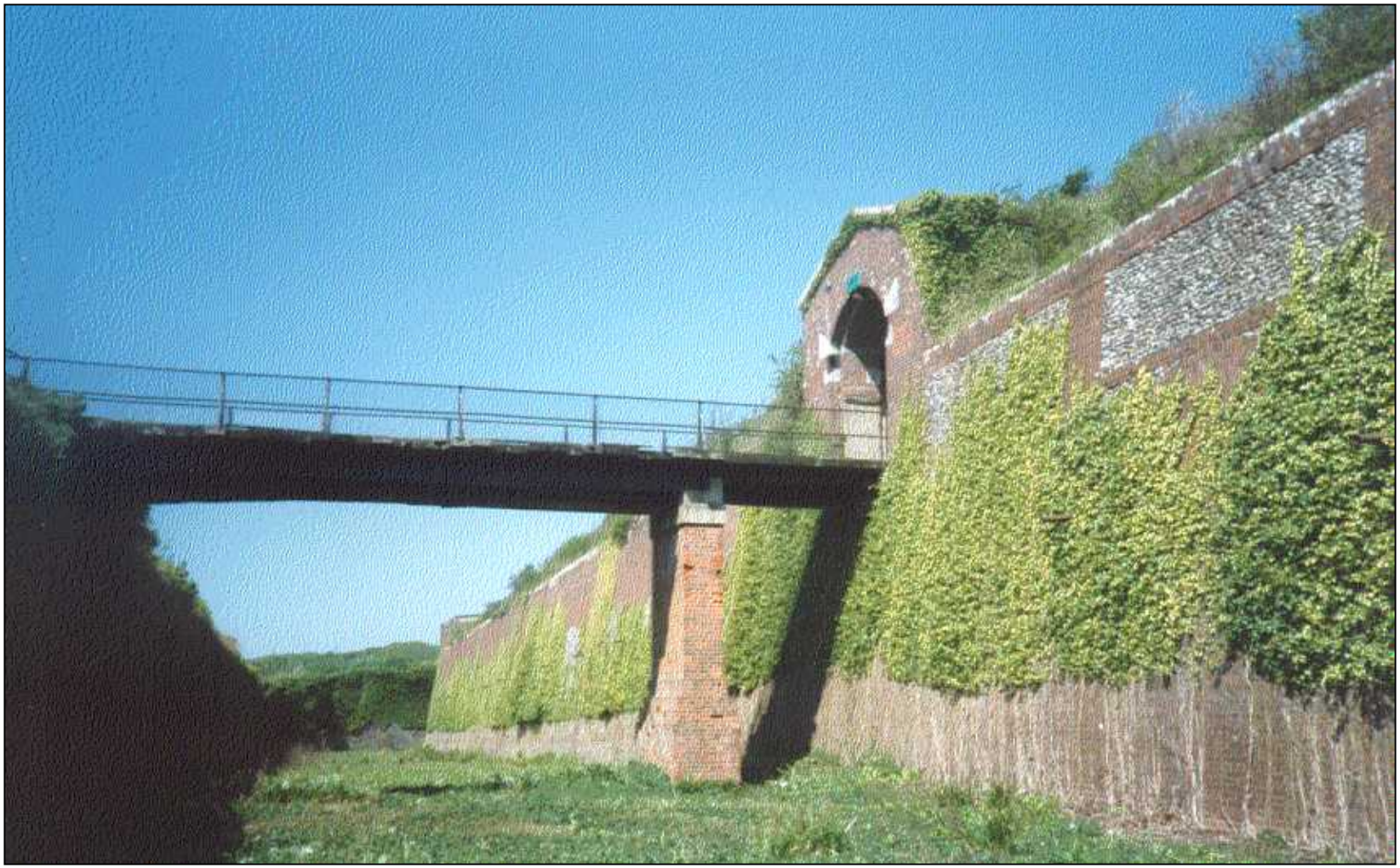
Micron Sprayers Limited

- UK based and owned
- Established 45 years
- Inventor of CDA using rotary atomisers
- 50 employees
- Sales to over 90 countries
- Micronair Division on Isle of Wight



MICRONAIR

Bembridge Fort



MICRONAIR

Micronair AU5000LD Atomiser

Design Objectives:

- To produce spray droplets large enough to minimise off-target drift
- To produce these droplets within a narrow spectrum of sizes
- To work effectively over a wide range of airspeeds – from helicopters to fast turbine aircraft
- To be compatible with existing AU5000 atomisers

MICRONAIR

The Challenge

First:

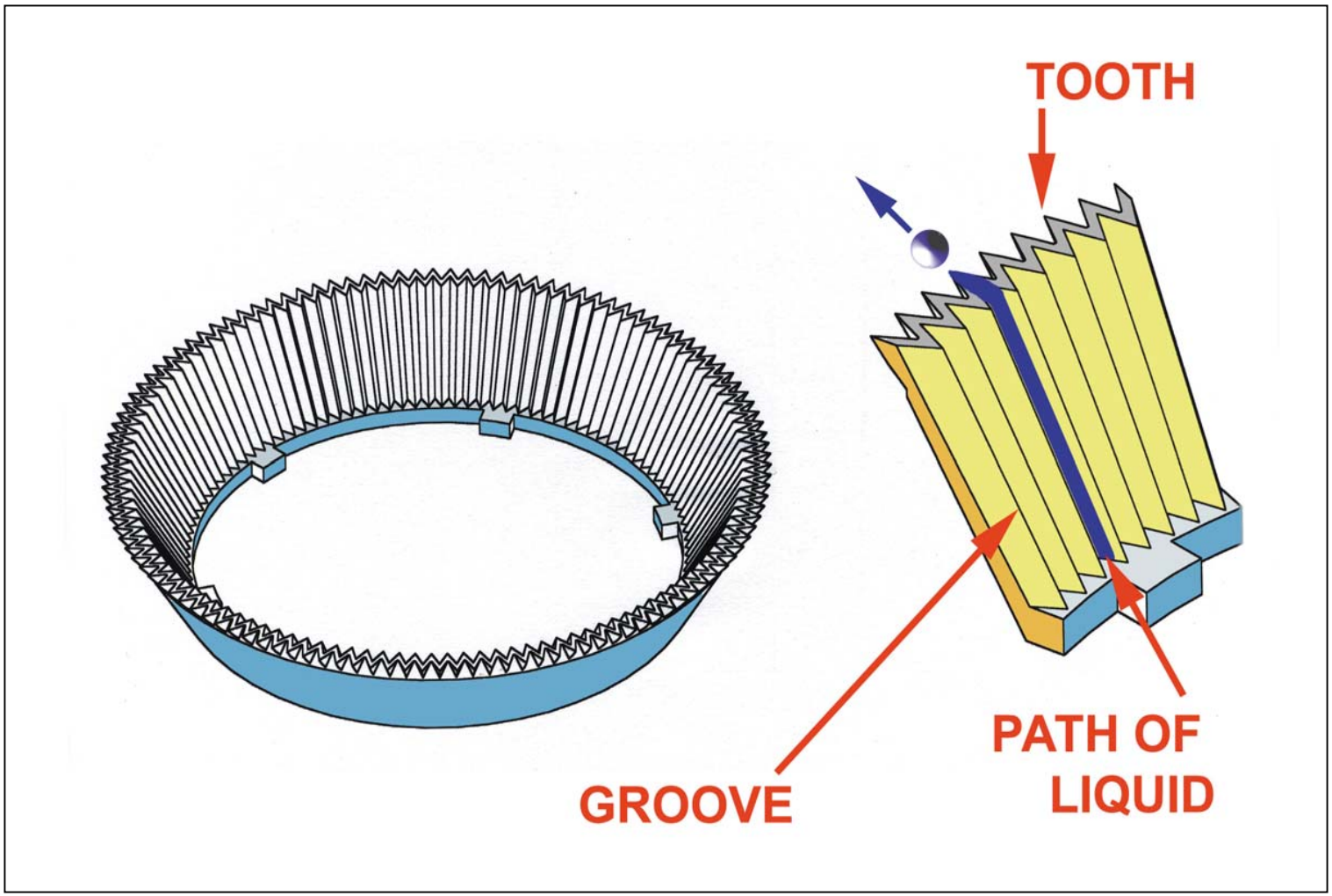
- To produce spray droplets suitable for both Low Volume (LV) placement spraying and Large Droplet Placement (LDP) spraying with a narrow spectrum of sizes and a minimum of drift-prone fine droplets

And then …

- To release these droplets into the air around the atomiser without shattering as they accelerate into the airstream

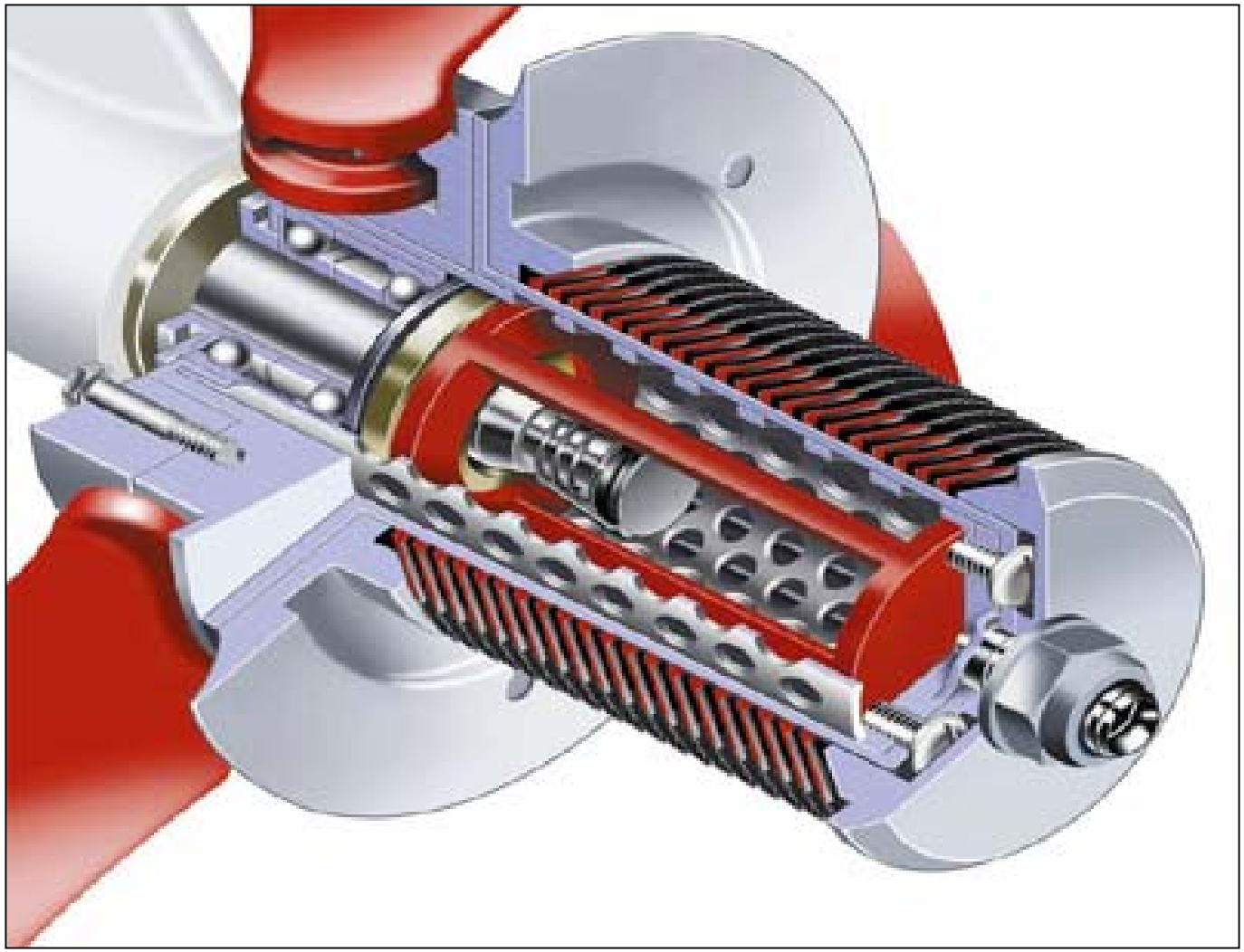
MICRONAIR

AU5000LD Disc

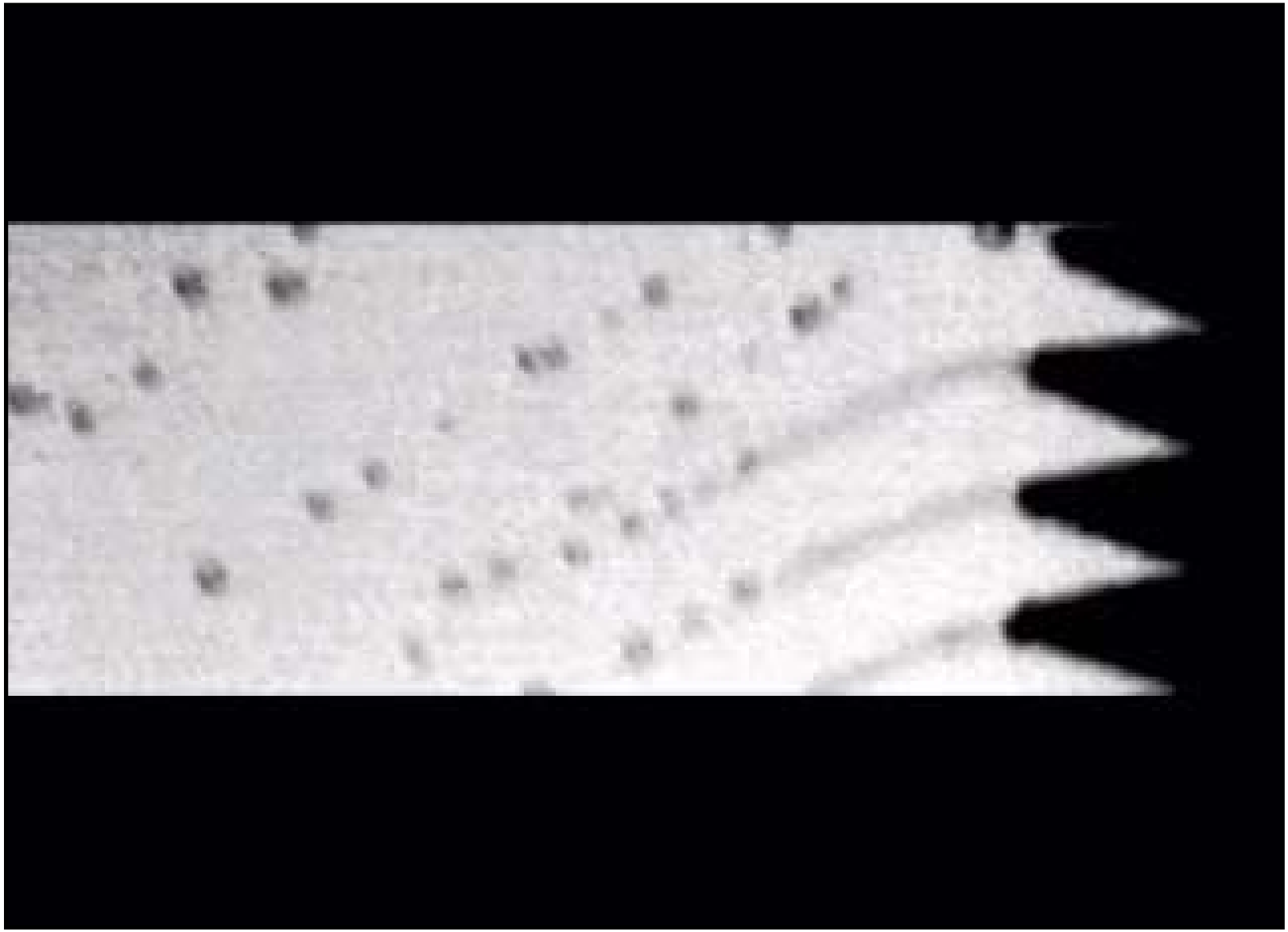


MICRONAIR

AU5000LD Disc Stack



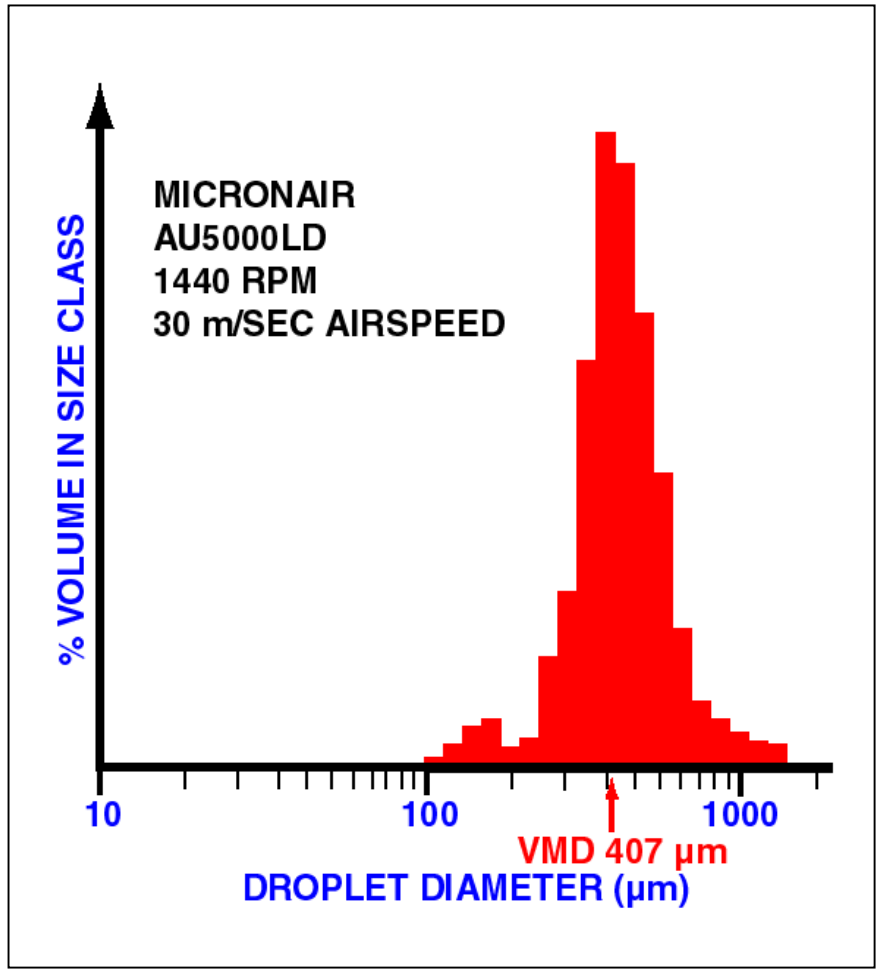
MICRONAIR



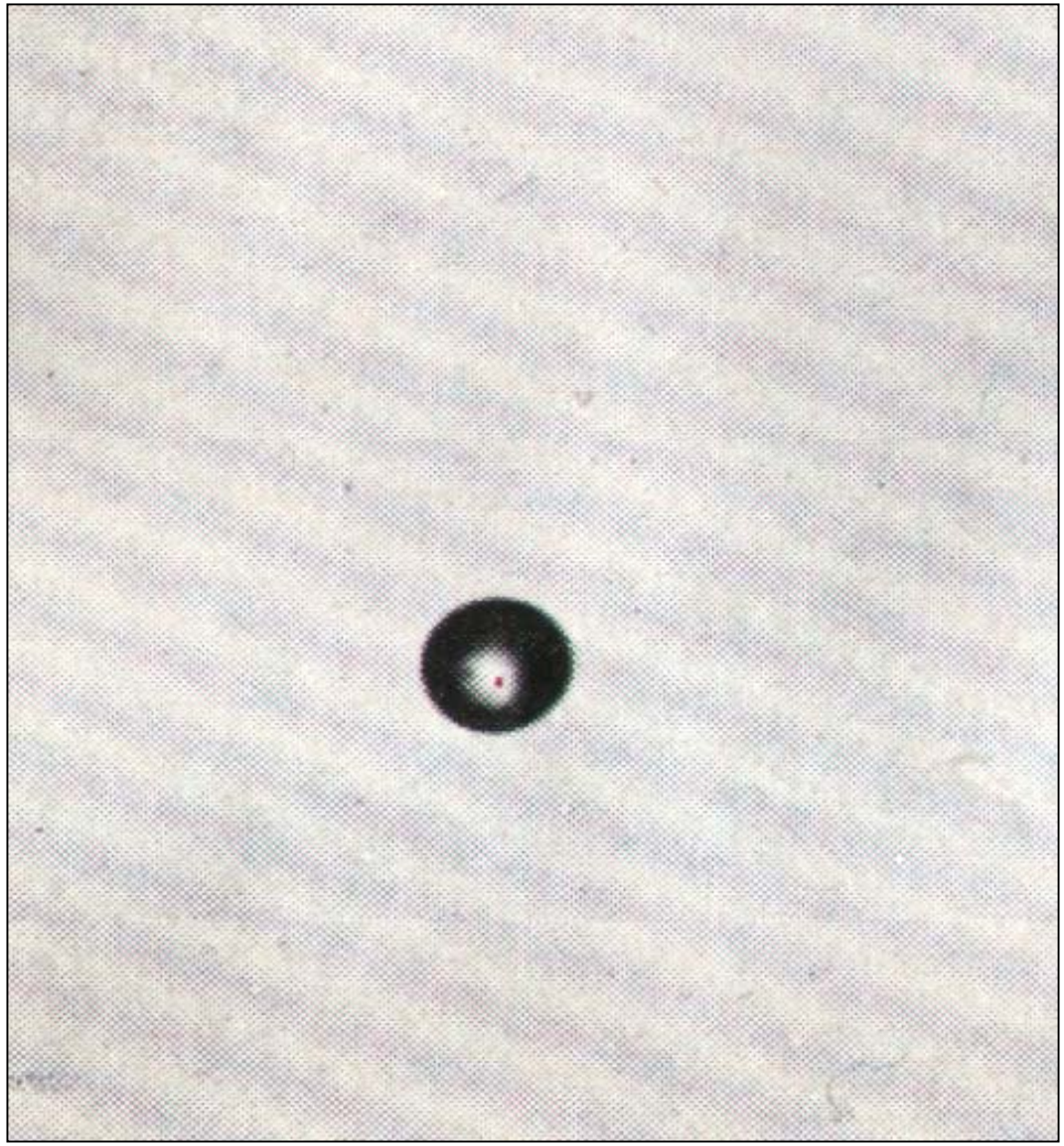
MICRONAIR

Effect of Airspeed

- A toothed disc produces a narrow spectrum of spray droplets
- These droplets will shatter if they are released directly into a fast airstream after they leave the atomiser



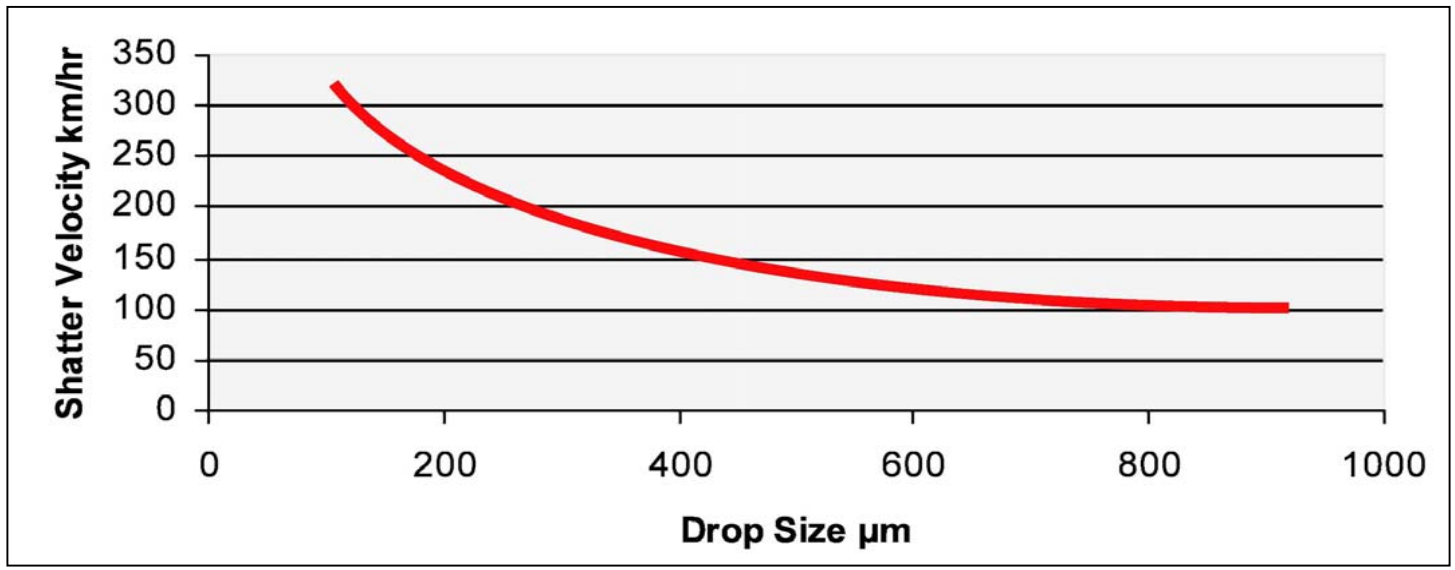
MICRONAIR



MICRONAIR

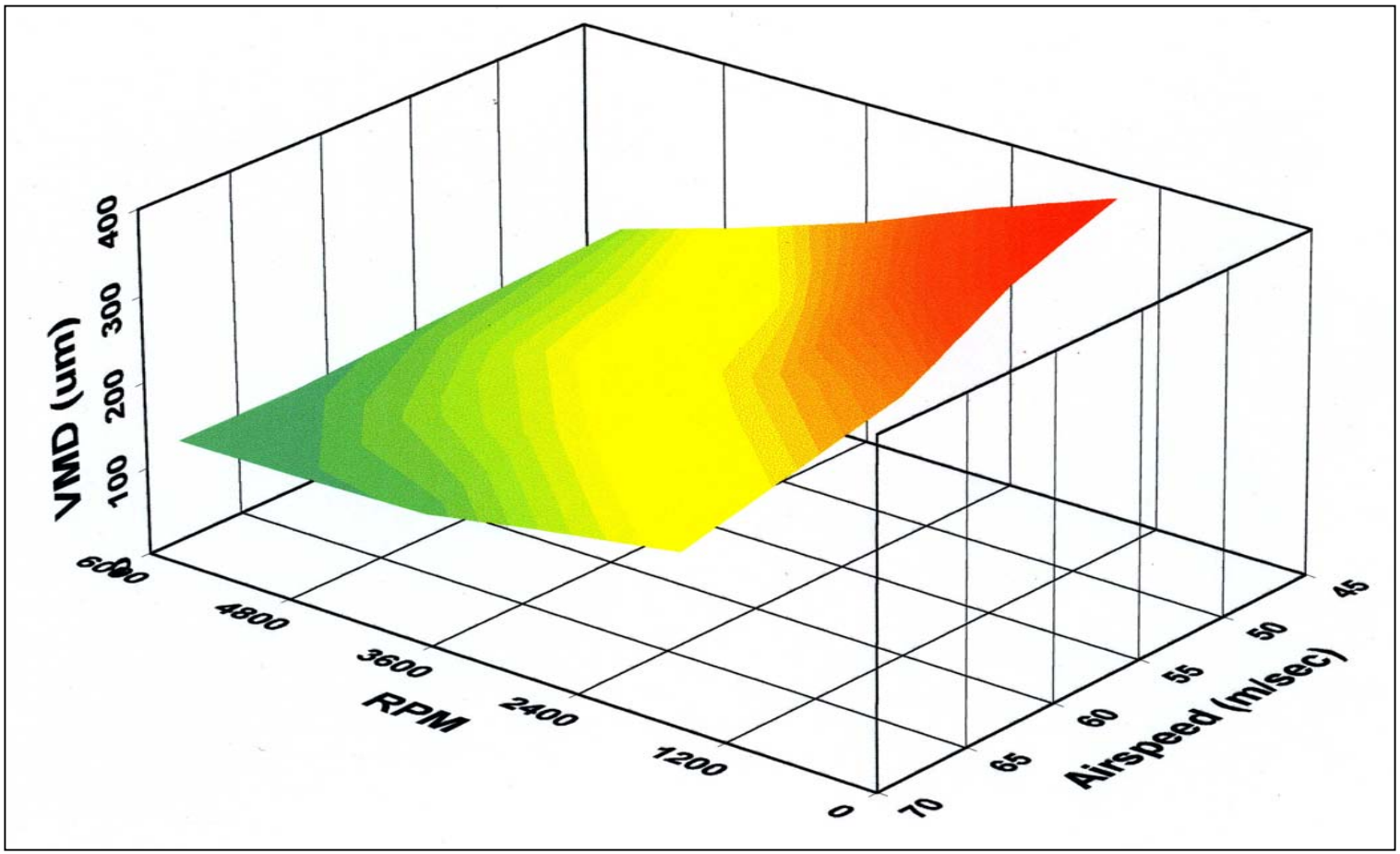
Shattering of Spray Droplets

- Large droplets shatter at lower airspeeds than smaller droplets
- Graph shows theoretical shatter velocity when droplet is introduced directly into airstream



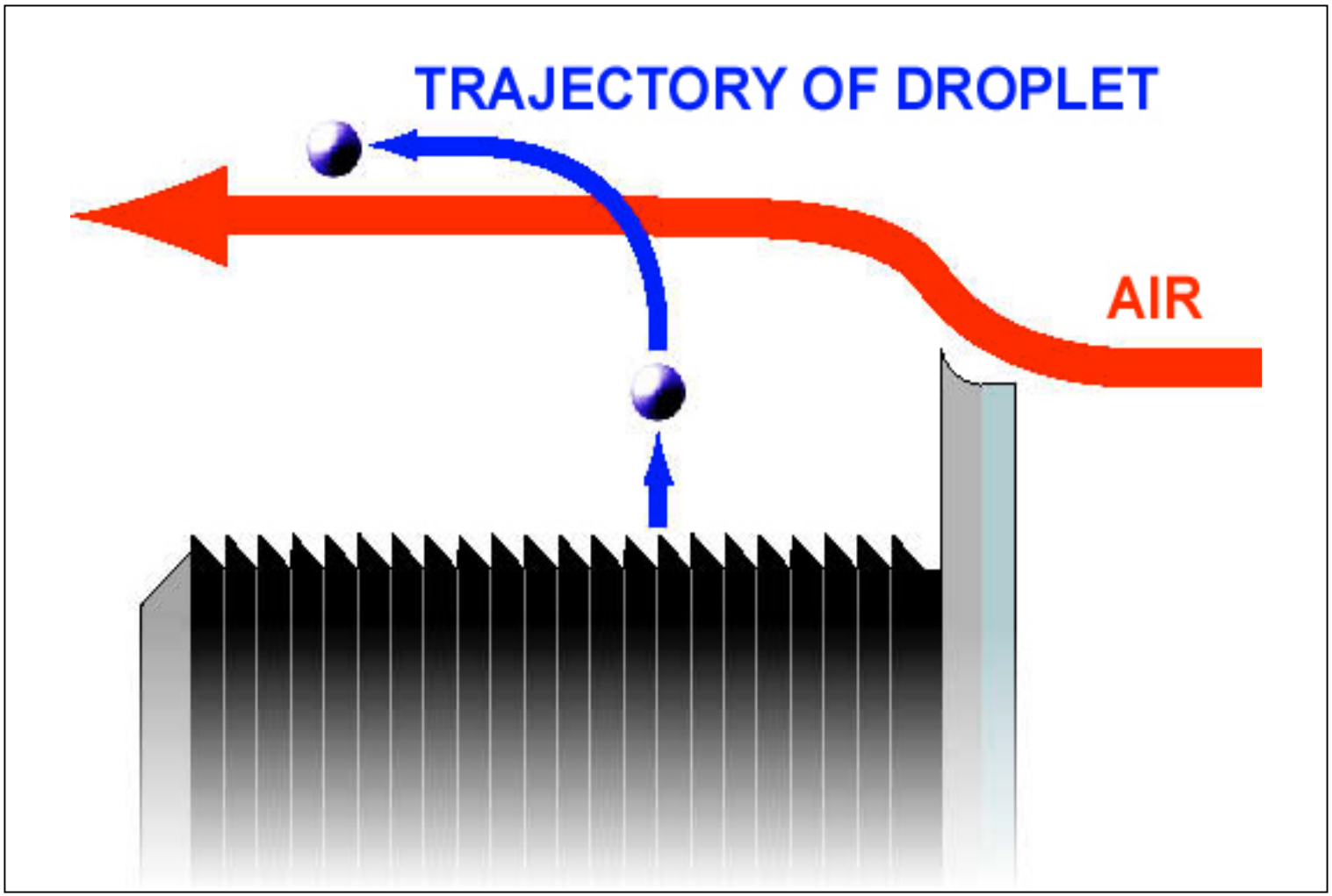
MICRONAIR

Effect of Atomiser RPM & Airspeed on Droplet Size



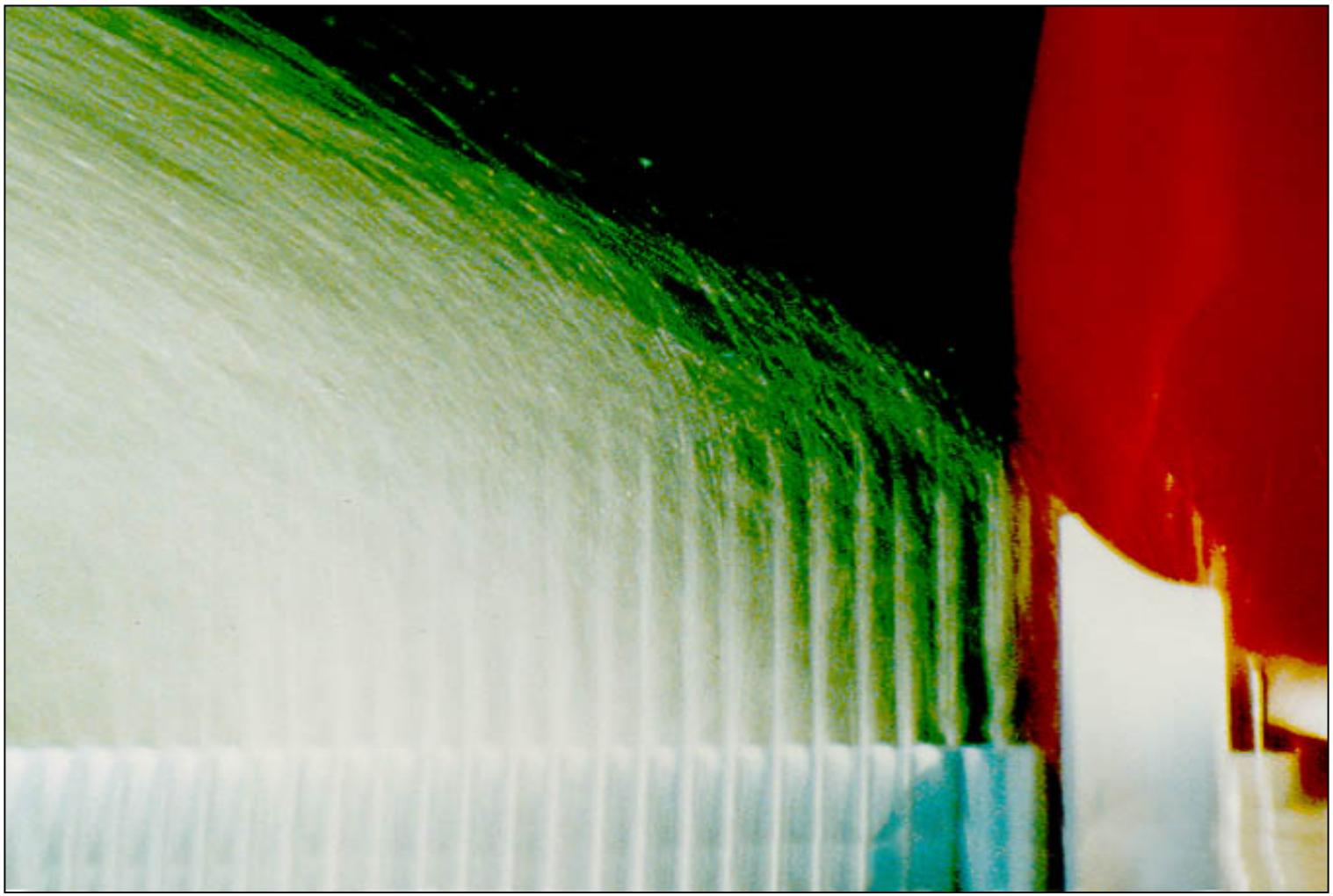
MICRONAIR

Profiled Air Deflector



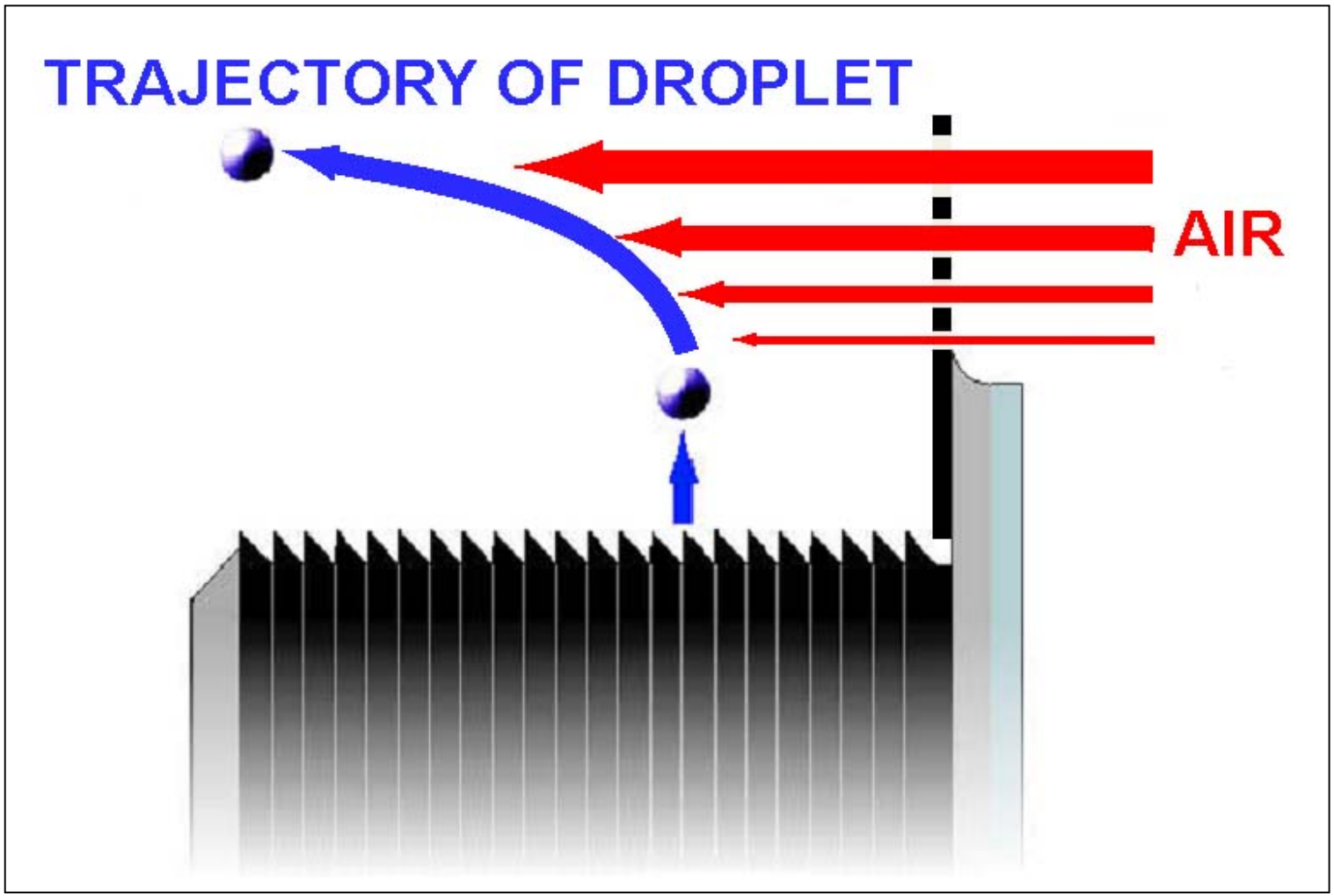
MICRONAIR

Profiled Air Deflector



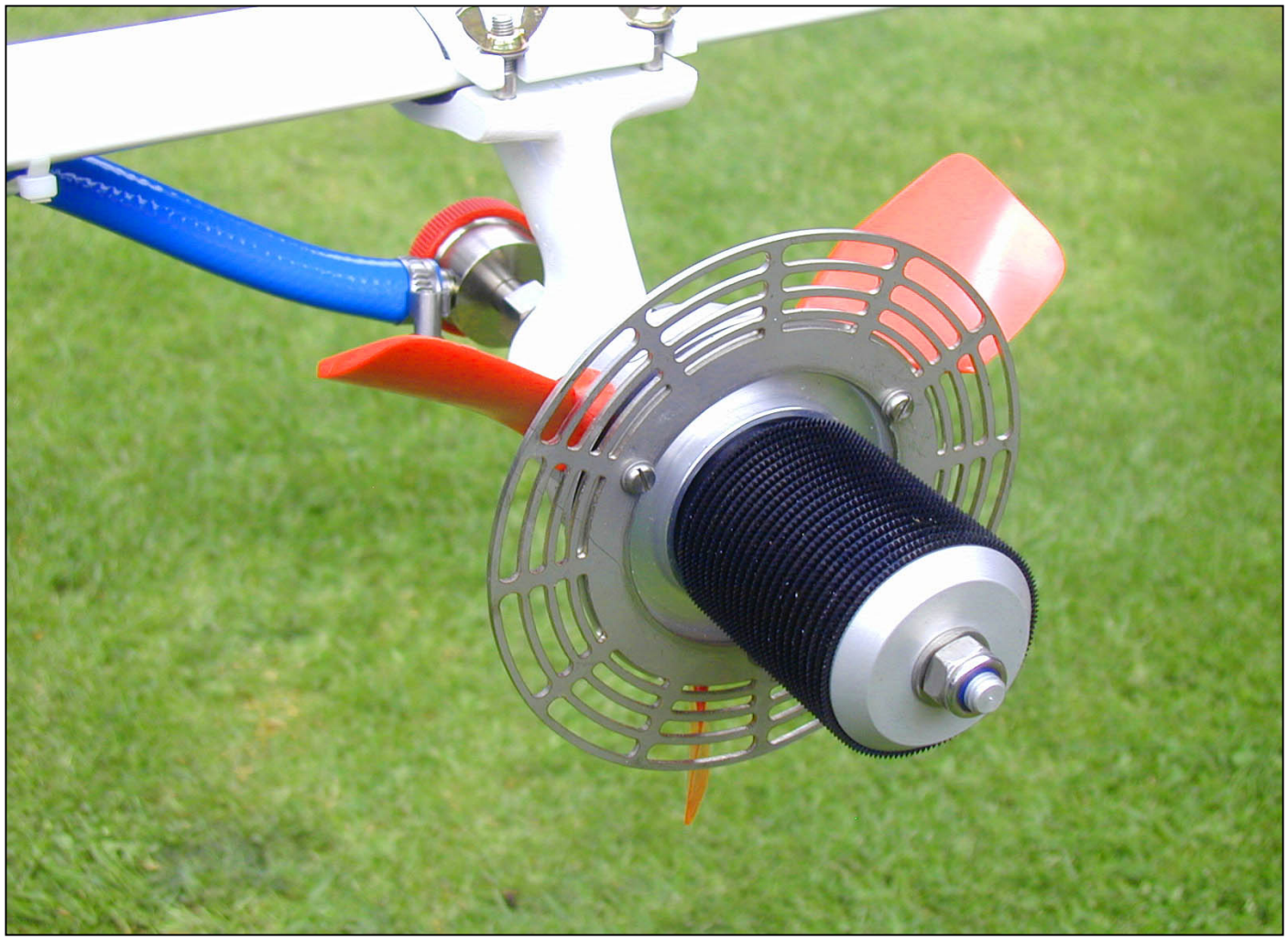
MICRONAIR

Slotted Air Deflector



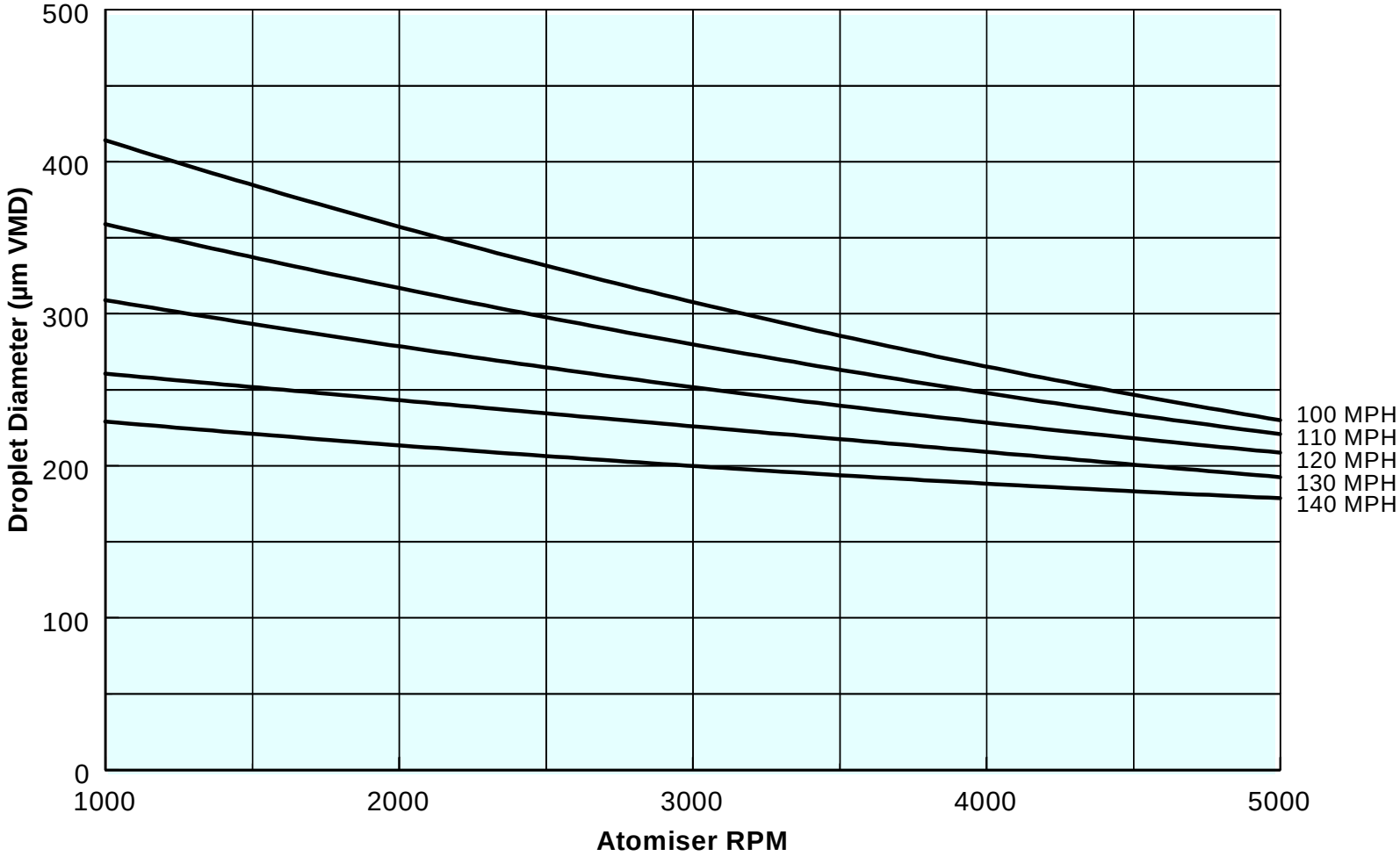
MICRONAIR

Slotted Air Deflector



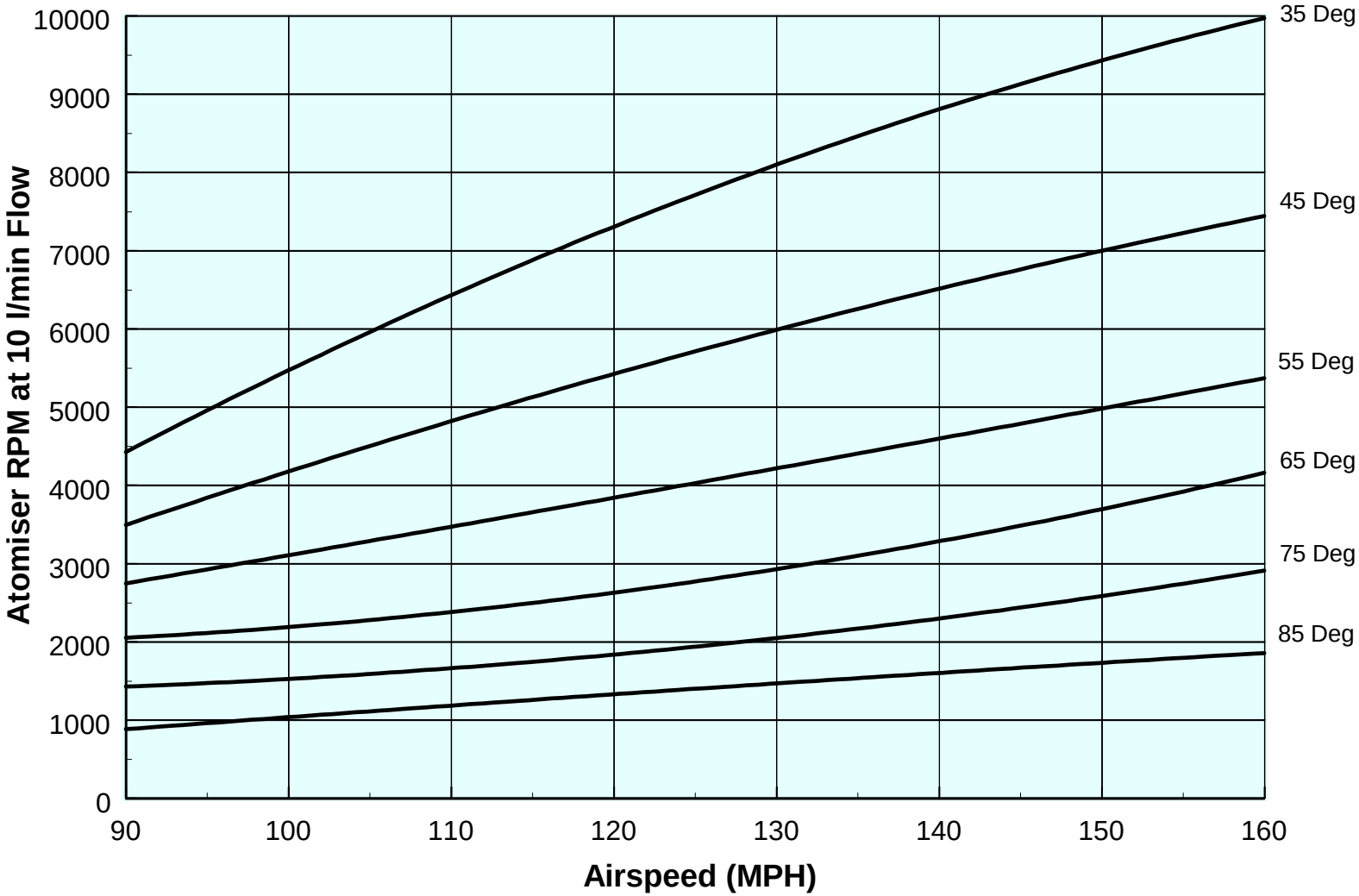
MICRONAIR

VMD vs RPM & Airspeed



MICRONAIR

RPM vs Airspeed & Blade Angle



MICRONAIR

Installation of AU5000LD

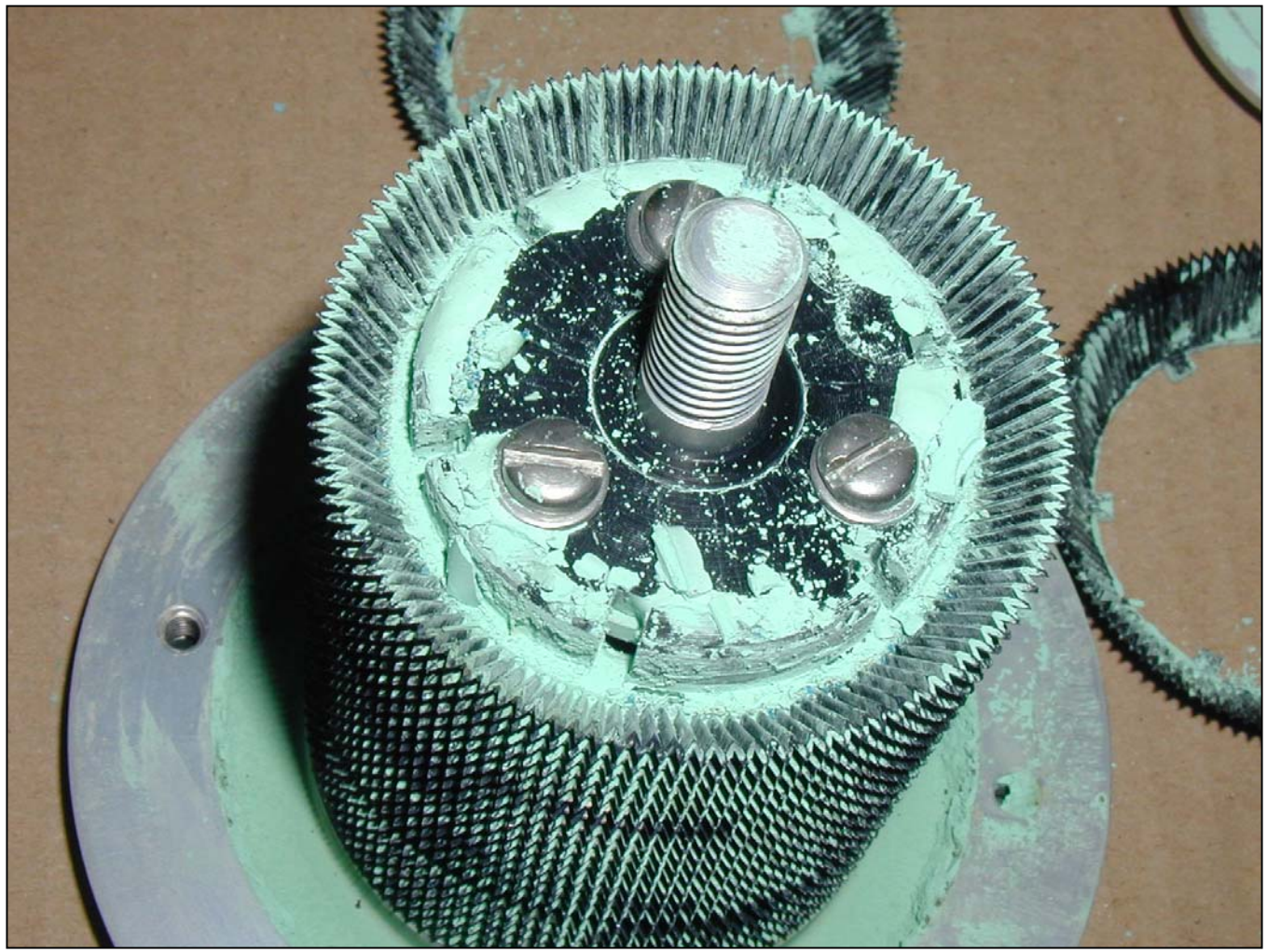
- Available as complete atomiser – directly compatible with standard AU5000
- Also available as conversion kit for existing AU5000 atomisers
- AU5000LD conversion replaces standard gauze
- Original hub, spindle, mounting clamp, pipework etc retained
- Atomiser can be re-fitted with standard gauze for ULV application

MICRONAIR

AU5000LD Conversion Kit

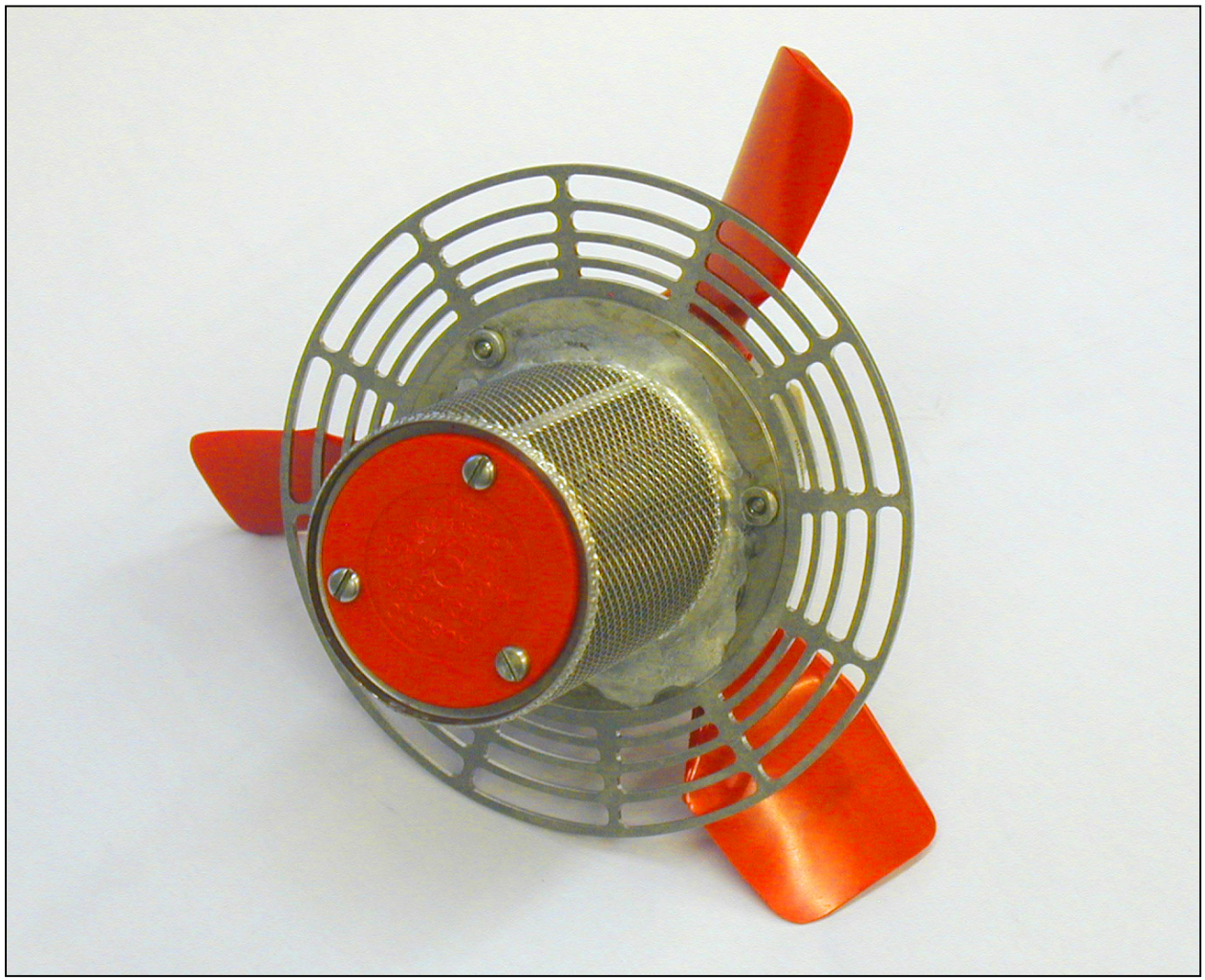
MICRONAIR

AU5000LD Discs with Fungicide



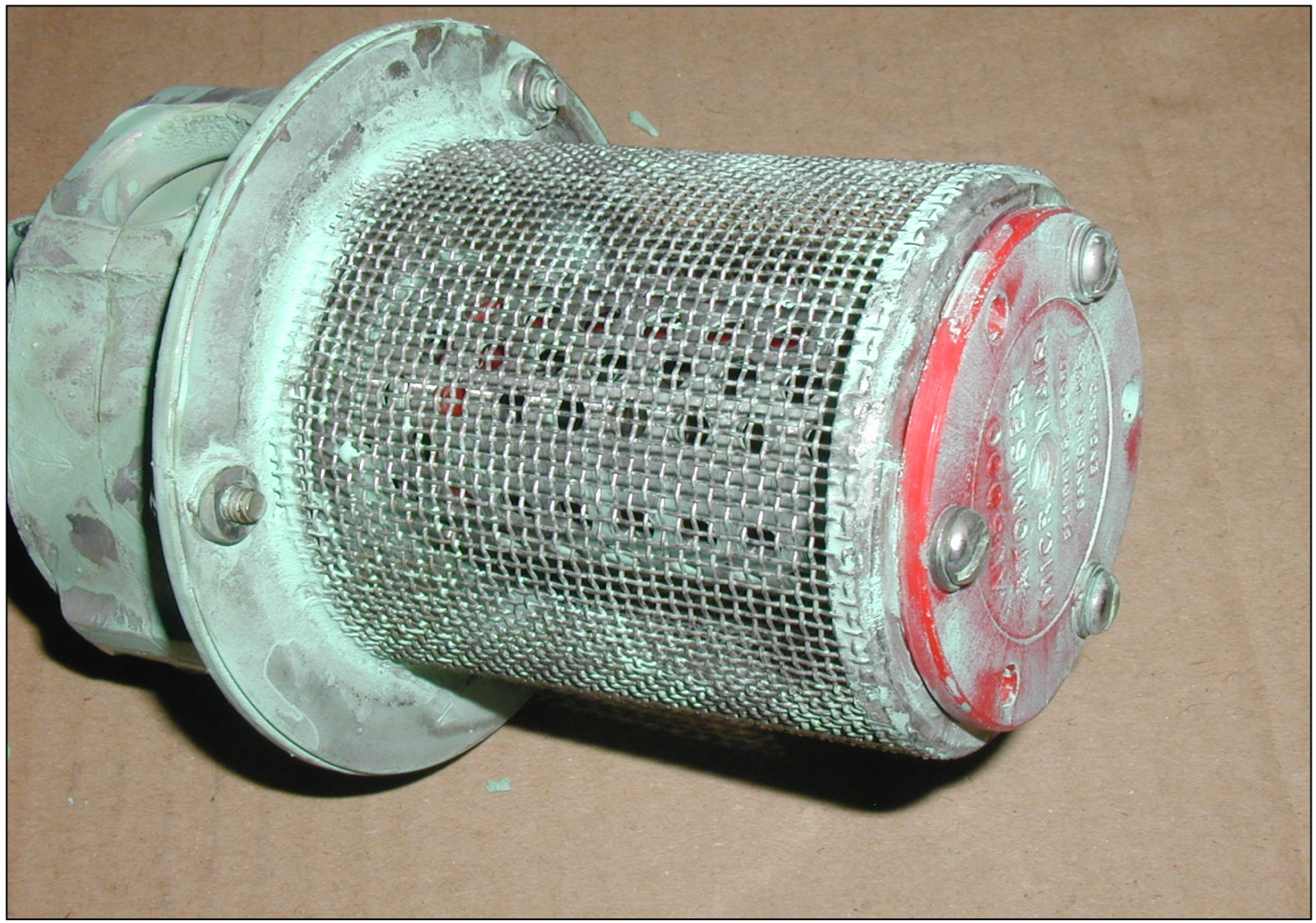
MICRONAIR

AU5000LD Fungicide Gauze



MICRONAIR

AU5000LD Fungicide Gauze



MICRONAIR

MICRONAIR

MICRONAIR

Operating Technique

- Regardless of atomiser technology, high airspeeds will always cause some secondary shattering of spray droplets and a decrease in overall VMD of the spray
- High airspeeds should be avoided for LDP application in critical areas
- Both atomiser RPM and airspeed must be considered when determining correct calibration of atomiser

MICRONAIR

MICRONAIR AU5000LD ATOMISER

MICRONAIR