45 YEARS OF INNOVATION IN 90 COUNTRIES
ATOMISERS FOR FIXED WING AIRCRAFT
MICRONAIR
AU5000LD
ATOMISER
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
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
Droplet Production

• AU5000LD atomiser uses proven toothed disc technology already used on Micron Herbi range of low-drift ground herbicide sprayers

• Spray liquid flows along grooves in the inside of conical discs and forms into droplets at teeth around the edge of each disc

• Teeth provide controlled issuing points, ensuring a narrow droplet spectrum, even at high flow rates

• Atomiser uses a stack of 23 discs to achieve high flow rates necessary for LDP spraying
AU5000LD Disc

- Groove
- Tooth
- Path of Liquid
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

![Graph showing droplet diameter distribution with VMD at 407 μm]
Slotted Air Deflector
Droplet Shatter - Post Droplet Formation
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
Effect of Atomiser RPM & Airspeed on Droplet Size
RPM vs Airspeed & Blade Angle

Airspeed (MPH)

Atomiser RPM at 10 l/min Flow

- 35 Deg
- 45 Deg
- 55 Deg
- 65 Deg
- 75 Deg
- 85 Deg
AU5000LD Conversion Kit
ATOMISERS FOR HELICOPTERS
ATOMISERS FOR ULTRALIGHT AIRCRAFT
APPLICATION MONITOR
FOREST SPRAYING
LOCUST AND MIGRANT PEST SPRAYING
ENVIRONMENTAL HEALTH SPRAYING