

AUTOMATED FLOW SEEDING

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OVERVIEW



Too big:

Particle gravity & momentum problems

Too small:

Signal loss; too little light scattered

Requirements can vary with local flow conditions

Too many:

Agglomeration, saturation

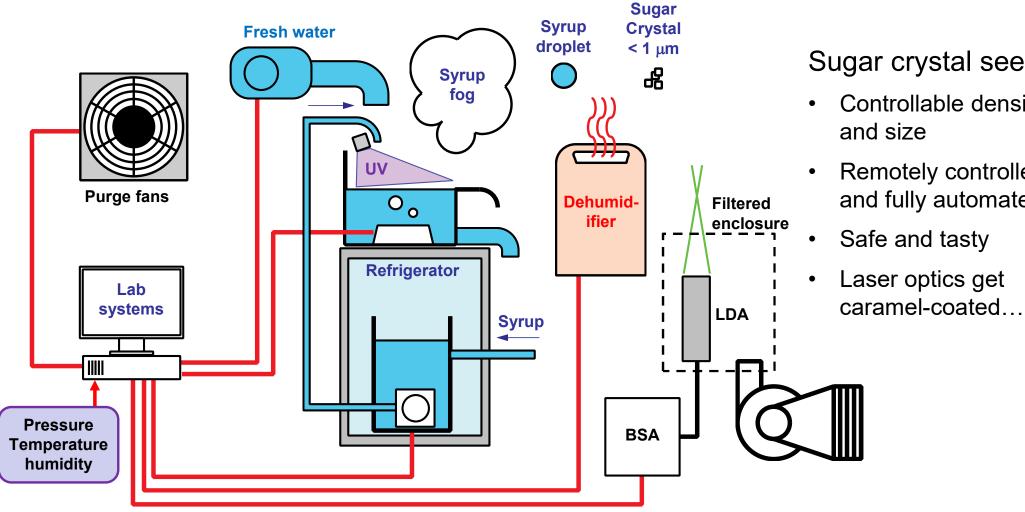
Too few:

Low resolution, high SNR

Open-circuit tunnel:

Must be non-toxic/breathable, nonconductive (for instrumentation) and as inert as possible







Sugar crystal seeding

- Controllable density
- Remotely controlled and fully automated





EH40 long-term WEL = 10 mg/m³ ATEX / LEL = 60 g/m³

$$\frac{\partial m}{\partial t} = P - km$$

so
$$m(t) = \frac{P}{k} + \left(m_0 - \frac{P}{k}\right) e^{-k}$$

P = mass of sugar consumed per unit timeMeasure k from decay rate

$$m(\infty) = \frac{P}{k}$$

