

## Micronization - Products & Services

### Overview

Micronization describes the reduction of powdered pharmaceutical ingredients into the microscale size range in order to achieve optimum effects. Dec Group is an expert in this field with more than five decades of experience, its spiral jet mill technology having been launched in the 1960s. Apart from its renowned MC DecJet® range of fluid energy spiral jet mills, Dec addresses pharma industry needs with a range of advanced micronization services and products. In particular, Dec's advanced engineering and knowhow can overcome the most persistent micronization challenges of uniform particle size distribution (PSD), flowability, cleaning issues, safe containment, temperature control and upscaling from development to full production.

### Micronization Products

Dec's MC DecJet® technology continues to set world-class quality and performance standards in micronized particle size reduction. Dec used Computational Fluid Dynamics (CFD) analysis to develop the latest 4th generation systems, with ring integrated nozzles and significantly improved grinding chamber geometry producing an exceptionally narrow PSD around 1 micron, revolutionizing micronization procedures.

**MC DecJet® technology allows micronization plants to deliver a range of valuable and tangible benefits:**

**Extremely precise particle size control:** Dec micronization equipment can deliver excellent results using only one single milling pass for nearly all pharmaceutical ingredients. Dec's One Pass, One Time mode can achieve ultra-narrow PSD and high yields, while simultaneously saving energy.

**Superior heat control:** The isothermal features of Dec Jetmills generate no heat allowing the micronization of the most sensitive pharmaceutical ingredients.

**Higher yields:** By reducing waste, product build-up and increasing speed, Dec can deliver excellent yields higher than 98%, from quantities as low as 50 g.

**Consistent upscaling:** Dec spiral jet mills are designed to guarantee precise scalability from initial gram-scale R&D phases through to full commercial production at hundreds of kilos per hour.

**Flowability:** Dec's design team has engineered its micronizing equipment to deal with the most problematic sticky, brittle or very hard substances while minimizing blowback and product build up.

**High containment:** Dec's in-house testing facilities allow engineers to assess containment and operator exposure levels (OEL), even with highly sensitive, toxic and/or sterile compounds. Furthermore, all Dec micronizing platforms can be integrated in process isolators and connected to the PTS Powder Transfer System which handles all powder flows and transfers from and to the micronizing process.



MC DecJet® 300 production plant (5 - 200 kg/h production capacity)

### Micronization Services

Dec offers a range of value-added services that assist customers in dealing with the most specialized and technical aspects of micronization, powder transfer and handling and other processes, as well as ensuring continuity of production. These services include product testing, installation support and very comprehensive spares back up.

#### Product Testing

Dec offer prospective customers with opportunities to prove their products, or suitable test substitutes on Dec machines before purchase. Dec's specialists help to prepare and run proving programs with full client observation and participation. Proving programs can also cover a range of specific aspects of the overall process:

- Powder transfer and handling, including cleaning in place (CIP),
- Charging/discharging powders to and from drums and big bags
- Mixing and dosing

#### Installation

Installation support covers the three specific aspects of bringing a new system on-line.

**Factory & Site Acceptance Tests:** Where needed, Dec can provide a supervised FAT/SAT to comply with relevant protocols. Performed on Dec premises, this takes one day to include all elements completely assembled, including controls as well as testing of all mechanical equipment and a documentation review.

**Commissioning and Training:** Dec experts can commission installations and provide operator training. Commissioning can include assembly supervision, with a Dec technician on site to supervise initial positioning, assembly guidance and full equipment check prior to final installation.

**Validation (IQ/OQ):** Dec can provide the expertise necessary to validate the installation, including Installation & Operational Qualification documents.

#### Spare Parts

Comprehensive and timely spares provisioning and replacement are vital to ensure continuity of production. Dec's spare parts team ensures efficient service, responding to enquiries swiftly, while providing technical consultation and support as needed.

# Drug Delivery to the Lungs 2018

📅 12th Dec - 14th Dec 2018 📍 Edinburgh

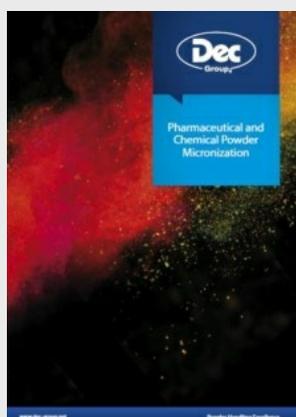
Interested?  
Register now : [Registration link](#)

## DDL2018 - Edinburgh

DDL provides an annual forum for scientists, academics, clinicians, regulatory and industry specialists involved in developing medicines for inhalation. DDL2018 will have five themed sessions each with a combination of invited and submitted lectures given by experts in the field of inhalation and students working to advance respiratory science.

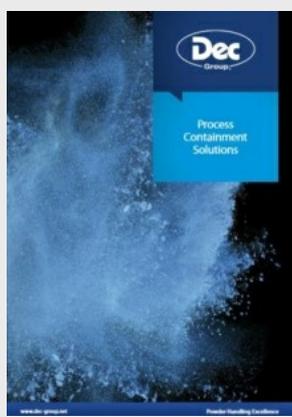
The Dec team is there and presents spiral jet mill technology. On display at stand 252: MC DecJet® 150 and MCOne

For more information, please visit the [organizer's web site](#).



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Micronization

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