

# Jet milling innovations

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## Products & Services | DEC Group

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### Overview

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As a jet milling innovator, Dec Group can offer a complete range of solutions and services for micronizing projects, including its leading-edge Fourth Generation MC DecJet® mills.

These patented systems can overcome the most common issues of particle size reduction such as cleaning, heat generation and microscale particle size with their revolutionary jet milling innovations and advanced technology.

Dec Group can also provide jet-milling related consultancy, in-house testing and process development expertise.

### MC DecJet Jet Milling innovations

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The MC DecJet's spiral jet mill technology is capable of reducing particle size to microscale level below 1-5 microns. These machines are available in various formats and configurations to meet complex pharmaceutical, chemical and cosmetic industry requirements.

Dec's 4th generation MC DecJet® systems incorporate grinding chambers whose internal geometry has been optimized using Computational Fluid Dynamics (CFD) analysis. This results in a distinctive configuration in which the gas entry nozzles are completely integrated into the central ring of the grinding chamber. Latest developments allow the DecJet jet milling equipment to produce a very narrow Particle Size Distribution (PSD) around 1 micron (Gaussian curve), allowing a new range of micronizing procedures.

The entire MC DecJet® spiral jet mill range can also be configured to support very high containment levels according to customer needs, interfacing with Dec's world-leading PTS Powder Transfer System®.

All containment systems are performance tested to SMEPAC guidelines and operate to nanogram levels whilst maintaining productivity and offering excellent ergonomic conditions.

In summary, therefore, Dec's jet milling innovations deliver a powerful set of user benefits that include:

- Narrow PSD
- High Yields
- Low energy consumption
- Single pass technology
- Designed to reduce issues with sticky products
- Optimized product recovery rates
- Integrated nozzles prevent errors during installation and/or leaks during process
- Simple assembly/disassembly with no tools required
- Easy clean in place (CIP)
- Easy integration into glove boxes and isolators for sterile/high potency manufacturing
- Scalability from 0.2 grams up to 300 kilos per hour

## Jet milling micronization consultancy

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With so many micronization variables affecting the quality of products, expert consultation on optimum jet milling process parameters and particle size distribution curve manipulation can be highly valuable.

Dec can take a product, assess PSD characteristics, conduct initial laboratory analysis and then shape a fully developed and optimized process for full production level, recommending the best jet milling machine for the production rates required. At the same time, the strategy can include appropriate isolation and containment solutions as well as GMP compliance, including sterile and toxic-sterile processing.

## In-house jet-milling process development

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Extensive in-house testing facilities allow Dec to test both non-toxic compounds with its standard open range of spiral jet milling systems. It can also test highly toxic compounds using state of the art high containment micronizing isolation systems with fully automated control, gravimetric feeding and dedicated air handling system capable of achieving specific temperatures and relative humidity requirements.

## Resources

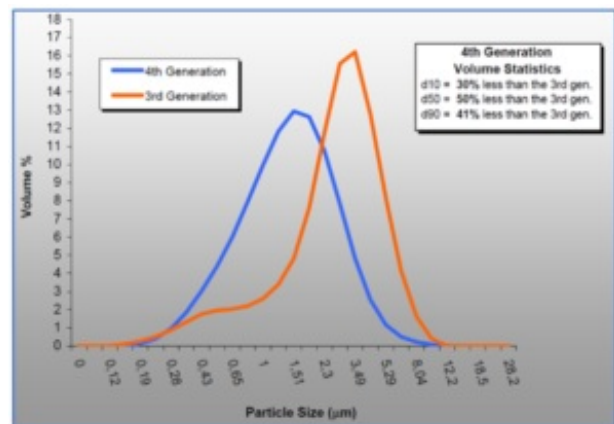
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Click on [Jet milling innovation](#) for other information.

Click on [Dec Group](#) to contact the company directly.



Dec MC DecJet® 200: moving to full jet milling production at 500g to 50 kg per hour



Innovative 4th Generation MCDecJet delivers narrower particle size distribution

## Supplier Information

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