Pharmaceutical and Chemical Powder Micronization
Micronization at its Finest
New 4th Generation MC DecJet®

Pharmaceutical ingredients in powder form often need to be reduced into the microscale size range in order to achieve their best effects. Common pitfalls of cleaning issues, heat generation and high particle lower size limits (40 microns) when using mechanical mills can be controlled with Dec's MC DecJet® range of fluid energy mills.

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One is considered a pioneer in the field of spiral jet milling. The development of jet milling technology, ie particle size reduction by collision, dates back to the 1960's followed by continuous development over the decades leading to today’s high performance 4th generation jet mills serving many industries, notably in the pharmaceutical and chemical sector.

The new 4th generation MC DecJet® systems have been developed with Computational Fluid Dynamics (CFD) analysis. The subsequently improved geometry of the grinding chambers and ring integrated nozzles have led to a very narrow PSD (Particle Size Distribution) around 1 micron (Gaussian curve) revolutionizing existing micronizing procedures.

MC DecJet® isolators provide full containment of highly active and/or sterile compounds with both operator and product protection. The MC DecJet® micronizing and containment range (from MC DecJet 30 to 400) is the perfect union of years of experience as user and provider of micronizing and containment technologies.

In-House Testing Capability

MC DecJet® 200 Half suit isolator

Our extensive in house testing facility allows us to test both non-toxic compounds with our standard open range of jet mill systems and now highly toxic compounds using our state-of-the-art high containment micronizing isolation system with fully automated containment feeding and dedusting. It is the perfect union of years of experience in the micronizing and containment technologies.

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High Performance and Excellent Scalability

Our proprietary design of MC DecJet allows excellent scalability from R&D to large-scale productions.

<table>
<thead>
<tr>
<th>Model</th>
<th>Nominal Diameter</th>
<th>Estimated Capacity</th>
<th>Batch Size</th>
<th>Process Gas @ 7 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC DecJet® 30</td>
<td>33 mm (1.3 inches)</td>
<td>33 g to 50 g/h</td>
<td>0.2 g to 50 g</td>
<td>0.09 Nm³/min (3.18 CFM)</td>
</tr>
<tr>
<td>MC DecJet® 50</td>
<td>50 mm (2 inches)</td>
<td>35 g to 200 g/h</td>
<td>1.5 g to 500 g</td>
<td>0.19 Nm³/min (6.71 CFM)</td>
</tr>
<tr>
<td>MC DecJet® 100</td>
<td>100 mm (4 inches)</td>
<td>5.0 kg to 5.0 kg/h</td>
<td>3 g to 20 kg</td>
<td>0.412 Nm³/min (14.55 CFM)</td>
</tr>
<tr>
<td>MC DecJet® 150</td>
<td>150 mm (6 inches)</td>
<td>30 kg to 0.5 kg/h</td>
<td>200 g to 100 kg</td>
<td>0.73 Nm³/min (25.8 CFM)</td>
</tr>
<tr>
<td>MC DecJet® 200</td>
<td>200 mm (8 inches)</td>
<td>40 kg to 1 kg/h</td>
<td>1 kg to 1000 kg</td>
<td>1.59 Nm³/min (56.36 CFM)</td>
</tr>
<tr>
<td>MC DecJet® 300</td>
<td>300 mm (12 inches)</td>
<td>200 kg to 5 kg/h</td>
<td>5 kg to 2000 kg</td>
<td>3.89 Nm³/min (137.37 CFM)</td>
</tr>
<tr>
<td>MC DecJet® 400</td>
<td>400 mm (16 inches)</td>
<td>300 kg to 10 kg/h</td>
<td>10 kg to 3000 kg</td>
<td>6.99 Nm³/min (246.85 CFM)</td>
</tr>
</tbody>
</table>

Engineering the 4th Generation

The design is based on the successful and well-proven technology, and we have developed and refined our technology to make the process more efficient and effective. Our new design enables us to produce a wider range of products with improved performance and less energy consumption.

Dec’s jet mill technology is based on our 4th generation technology, which has been improved in several areas to ensure better performance and efficiency. The new design also includes new components that allow for easier maintenance and repair.

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Dec Group is a world class global provider of powder handling systems and containment systems, recognized as a leading expert in process containment technologies. It has been supplying the pharmaceutical, chemical, food and cosmetic industries for more than 25 years.

Dec Group is headquartered near Lausanne, Switzerland, and has a global presence with subsidiaries and agents worldwide including European subsidiaries in the UK, Ireland, Germany and Poland, together with Asian offices in India and China, as well as a North American subsidiary.

Many companies have successfully integrated over 4000 Dec systems into their production sites. These include a wide range of patented products that enhance safety and hygiene, containment and productivity.

www.dec-group.net

Powder Handling Excellence