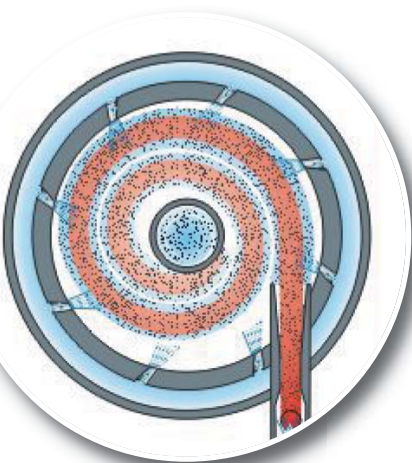




Micronizing **MCOne**[®]

- Hundreds of installations worldwide
- The most advanced micronizers on the market
- Effective with more products than any other available today
- Highly efficient single pass processing
- Working with 1000s of compounds
- Including sticky and abrasive products
- Scalable product range
- Accurate reproduction from development to production



The MCOne® is the perfect tool for Research and Development teams seeking the ability to micronize very small quantities of material (0.2grams), allowing them to carry out many more trials using limited or costly products with very high yields.

Technical Features

Based on our Jet Milling technology, the **MCOne®** works independently with just a nitrogen bottle, with the process at a constant temperature (endothermic). The powder is fed at subsonic speeds (approximately 50 m/s) into the flat cylindrical milling chamber tangentially through a venturi. The system uses pressurized air or nitrogen.

Once the particles are inside the milling chamber they are accelerated by a series of jets around the perimeter to supersonic speeds (300 m/s), in a spiral movement. The micronizing effect occurs when the slower incoming particles and the faster particles in the spiral path collide. While centrifugal force retains the larger particles at the periphery of the milling chamber, the smaller particles exit with the exhaust gas from the centre of the chamber.

The Particles Size Distribution is controlled by adjusting the 3 main parameters:

- Grind Pressure – the energy used to micronize the product, increasing pressure, increases the micronization effect.
- Feed Pressure – The energy used to introduce the product into the milling chamber.
- Feed Rate – the concentration of product fed into the milling chamber; the greater the feed rate, the less the micronization effect, because particles must have space to achieve proper acceleration before collision.

Examples of micronized products

Very small batches: LACTOSE

- Quantity of product fed: 0.3 gram
- Yield 0.22 gram, 73%

Medium batches: PEPTIDE

- Quantity of product fed: 1 gram
- Yield 0.88 gram, 88%

Bigger batches: POLIPETIDE

- Quantity of product fed: 50 gram
- Yield 49.3 gram, 98.6%

Scalability

Whilst some scientists have been able to obtain the wanted dimension (PSD) of their powder with existing systems, they are not scalable. The same PSD (Particle Size Distribution) with the MCOne®, is possible as with every Jetpharma Solutions jet milling system, including to large production such as the MC Jetmill® 400 micronizes up to 300kg/hr.

Single collection point

The feature is particularly important because it guarantees the homogeneity of the Particle Size Distribution of the batch, as in the entire MC Jetmill® range. For the **MCOne®** this characteristic is even more critical, since there is no loss of the finest particles, a typical feature of two-collecting-point mills, where the surface in direct contact with the micronized product is greater.

Quick and easy

Assembly and disassembling of the system with a limited number of components. That means rapid cleaning and cleaning validation is easily achieved. This feature is crucial for the pharmaceutical industry, where it is imperative to work following the cGMP.

All components can be easily cleaned in a normal ultrasonic bath.

Simplicity

Total absence of screws (replaced by tri-clover connections), no crevices, thanks to its smooth and regular surfaces.

Miniaturized dimensions

(H 529 x L 180 x W 260 mm)

Easy to move and bring anywhere – a true laboratory unit, with a range of portable accessories (nitrogen bottle, travel case, nanofeeder, for accurate dosing and more).

Technical Data

Nominal diameter	Estimated capacity	Batch size	Process gas @ 7 bar	Process gas @ 12 bar	Installed power
33 mm (1.3 inches)	From 0.1 to 50 gr/hr	From 0.2 gr to 50 gr	0.09 Nm ³ /min (3.18 CFM)	0.18 Nm ³ /min (6.36 CFM)	–