TECNOLOGIA MECCANICA

J-40 J-50 J-70

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J-40 J-50 J-70 Fluid Jet Micronizers

Fluid jet micronizers designed for pilot or small production

The Fluid Jet family of micronizers (including the J-40 J-50 J-70 machines) is based on TECNOLOGIA MECCANICA jet milling technology. These micronizers work at a constant temperature (endothermic) and independently with a small air compressor or a standard nitrogen supply. The powder is fed at subsonic speeds (approximately 50 m/s) into the flat cylindrical milling chamber tangentially through a venturi system using pressurized air or nitrogen. Once inside the milling chamber the particles are then 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.

At a glance

- Productivity from 0.05 to 7.00 kg/hour
- One single collecting point bin, available in many different sizes
- Scalability of the process to bigger micronizers
- Very low product loss, typical yields are 99% of batch size
- Elimination of blow-back phenomenon
- Limited caking of sticky powders
- Quick and easy assembling and disassembling of the system with a limited number of clamped components
- Rapid cleaning and easy validation
- Simplicity of the whole unit
- Every equipment is manufactured in Aisi type 316L (EN 1.4404) stainless steel or in Hastelloy mirror polished to Ra 0.25 micron
- Special internal lining, Ptfe, Pur (Vulkollan), Ceramic, Titanium nitride, etc …

Discover your own tailored equipment

There are many possibilities and configurations available to tailor our micronizers to your application. Try your custom version, our engineering team works with you in order to develop your personal system.

Options already available:

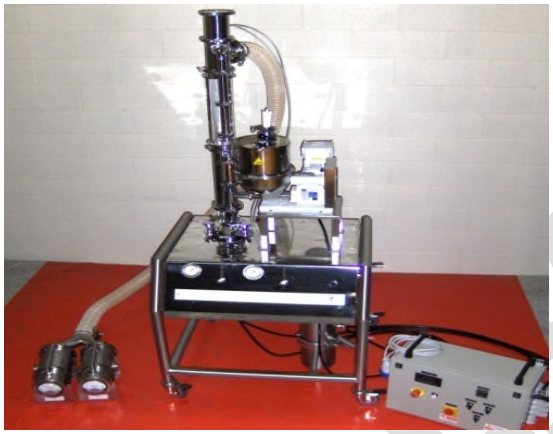
- Many different models of screw feeders
- Many different models of bag filters
- Low Emission version with Hepa filter
- Automatic shaking system for filter sleeve
- Balance line
- Cold / Cryogenic process gas version
- J-40 /J-50 / J-70 milling chambers
- Explosion proof version
- Sterile version
- Totally contained solution in glove box

Technical Features

Able to micronize very small batches/samples from 50 grams till 7 kg/hour (J-70 model) for little production at extremely narrow particle size distribution D99<3 micron. This is the main strength/innovation; these equipments (thanks to their modular design concept) can be used as well for R&D as for small production with batches of also 30 Kg. This mill allows production of delicate molecules very easily with high yield and involving a very reduced in size process gas supply system. To sum up these compact and versatile units bring micronization at an easy level with a low cost of exercise, making your laboratory independent from third service contractors for micronization process. Our technical team has developed this family of micronizers which has the lowest consumption of process gas of similarly sized units available on the market.

The Particle Size Distribution is controlled by adjusting two main parameters:

- PRESSURE: the energy used to micronize; increased pressure increases the micronization effect
- FEED RATE: the concentration of product fed into the milling chamber; the greater the feed rate, the less the micronization effect. This is due to the fact that particles must have space to achieve proper acceleration before collision occurs.

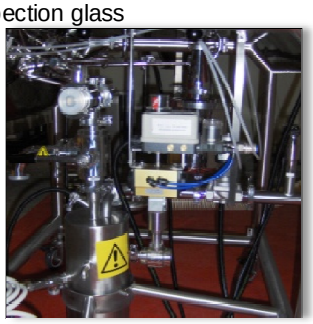


Available Versions

- J-40 or J-50 or J-70 milling chamber
- J-40/50/70 with mini double screw feeders
- J-40/50/70 with DS50-PH double screw feeder
- J-40/50/70-LE (low emission version)
- J-40/50/70-CRYO (cryogenic version)

Standard Pharma Version

- Modular components that can be shared by all the different milling chambers
- Open manifold execution, FDA validable
- Upper and lower plates + central nozzles ring closed by three handles or by a single V-clamp
- From 1 lt to 5 lt product collecting bin, depending by milling chamber
- Polyester anti-static filter sleeve, in a stainless steel tube with cylindrical inspection glass
- Supporting table with two pressure gauges, one thermometer and two ball valves
- Manual shaking system
- Anti static swivel castors



Technical Data

- Milling Chamber: J-40
  - Process gas at 7 bar = 0.45 m3/min (15.9 CFM)
  - Process gas at 12 bar = 0.73 m3/min (25.8 CFM)
  - Estimated capacity = from 0.05 to 2.00 kg/hour
- Milling Chamber: J-50
  - Process gas at 7 bar = 0.45 m3/min (15.9 CFM)
  - Process gas at 12 bar = 0.73 m3/min (25.8 CFM)
  - Estimated capacity = from 0.05 to 5.00 kg/hour
- Milling Chamber: J-70
  - Process gas at 7 bar = 0.59 m3/min (20.9 CFM)
  - Process gas at 12 bar = 1.01 m3/min (35.7 CFM)
  - Estimated capacity = from 0.25 to 7.00 kg/hour

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