



Main areas of application

Alloys, bones, cereal grains, ceramics, chemicals, drugs, glass, hair, minerals, oil seeds, ores, plant materials, plastics, sludge, soils, coated and uncoated tablets, textiles, tissue, waste samples, wool



Mixer Mills

Mixer Mill MM 400

The RETSCH Mixer Mill MM 400 is a true laboratory "all-rounder". It has been developed specially for dry, wet and cryogenic grinding of small sample amounts. This high-performance ball mill usually grinds and homogenizes powders and suspensions in only a few seconds and achieves grind sizes down to the nano range. It is also perfectly suitable for the disruption of biological cells as well as for DNA/RNA recovery. Due to its great versatility, the MM 400 is used in many different industries ranging from pharmaceuticals and biology to mineralogy, environment or plastics.



MM 400

- Rapid and efficient pulverization and homogenization
- Reproducible results due to digital parameter setting
- Grinding jars in various sizes and materials
- 9 parameter combinations can be stored
- Simultaneous preparation of up to 20 samples

Mixer Mill MM 200

The Mixer Mill MM 200 is also used for efficient size reduction and homogenization of 2 samples simultaneously. It works with the same functional principle as the MM 400. This mill is highly suitable for grinding dry samples in small quantities and offers a favourably priced alternative to the MM 400 for routine applications. The grinding jars for the MM 200 have a push-fit lid.

Performance data	MM 200	MM 400	CryoMill
Application:	Size reduction, mixing, homogenization, cell disruption		
Type of material:	soft, medium-hard, hard, brittle, elastic, fibrous		
Feed size*:	< 6 mm	< 8 mm	< 8 mm
Final fineness*:	< 10 µm	< 5 µm	< 5 µm

* depending on feed material and instrument configuration/settings



Main areas of application

Animal feed, bones, chemical products, hair, oil seeds, paper, plant materials, plastics, sewage sludge, soils, tablets, textiles, tissue, waste samples, wood, wool



CryoMill

The CryoMill has been specially designed for cryogenic grinding. It features an integrated cooling system which continually cools the grinding jar with liquid nitrogen before and during the grinding process. Thus the sample is embrittled and volatile components are preserved. The liquid nitrogen circulates through the system and is continually replenished from an autofill system in the exact amount which is required to keep the temperature at -196°C . The automatic cooling system guarantees that the grinding process is not started before the sample is thoroughly cooled. This results in reduced consumption and guarantees reproducible grinding results.

The size reduction principle is the same as that of the MM 400. With a vibrational frequency of 25 Hz the CryoMill grinds most materials very effectively in a few minutes. The combination of impact and friction leads to substantially finer grind sizes compared to other cryogenic mills.

The CryoMill is equipped with one grinding station for grinding jar volumes of 25 ml, 35 ml and 50 ml. It is also possible to use adapters for 4 grinding jars of 5 ml each as well as for reaction vials.

- Fast, efficient cryogenic grinding at -196°C
- Ideal for plastics, temperature-sensitive materials and samples with volatile components
- Particularly safe due to autofill system for liquid nitrogen
- Highly reproducible grinding results
- Programmable cooling and grinding cycles
- Also suitable for dry and wet grinding

CryoMill





WolfLabs

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www.wolflabs.co.uk

Tel : 01759 301142

Fax : 01759 301143

sales@wolflabs.co.uk

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