



Innovation Empowers Sample Preparation,
Intelligence Achieves Simplicity



AM200S Mortar Grinder



蚂蚁源科学仪器（北京）有限公司
ANTS SCIENTIFIC INSTRUMENTS (BEIJING) CO., LTD.



AM200S Mortar Grinder

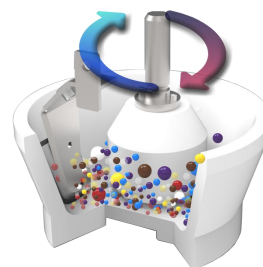
AM200S mortar grinder is a classic mill. It roots in traditional manual grinding. Simple and convenient operation. Soft, hard, brittle and pasty samples can be ground. The digital display speed can make the grinding result repeatable. Samples that are difficult to grind by heating, freezing or adding grinding aids.



Working Principle

The AM200S Mortar Grinder is based on the traditional hand grinding method, where the sample is crushed by the friction and compression of the mortar and pestle. After the sample enters through the inlet, it moves inward along the direction of the mortar and pestle, and when it hits the scraper plate, part of the sample gathers on the upper and lower contact surfaces of the pestle and mortar, and the other part of the sample moves along the wall of the mortar and pestle to the rear contact surface. This cyclic movement ensures uniform pulverization of the sample.

The mortar and pestle is of an eccentric design in relation to the mortar and pestle. On the one hand, the mortar and pestle are driven by the mortar and pestle to rotate, which generates friction through contact with the sample and on the other hand, the mortar and pestle are crushed by the weight of the mortar and by the pressure generated by the adjustable elasticity of the mortar and pestle in the axial direction.



Performance Advantages

- ◎ Dry, wet, frozen.
- ◎ The samples were homogenized by the classic mild grinding method.
- ◎ Digital time display ensures repeatability of results.
- ◎ The adjustment of the pressure and position of the pestle and the adjustment of the scraper board ensure the optimal grinding state.
- ◎ Mortar and pestle are plugged structure, no tools, easy to disassemble and easy to clean.
- ◎ The instrument has an observation window, and the LED lamp in the grinding chamber can clearly understand the grinding state at any time.
- ◎ The control panel has a load display function. 7 different grinding set materials.
- ◎ Closed, dust-tight grinding chamber.
- ◎ The instrument has a sensing device, operation safety

Technical Information

Technical parameter	AM200S Mortar Grinder
Feed material	soft, hard, medium-hard, brittle and pasty samples.
Material feed size	≤15mm (Depends on the nature of the sample and the grinding environment)
Final fineness	approx. 5μm (Depends on the nature of the sample and the grinding environment)
Setting of grinding time	1s ~ 99h59min59s, continuously adjustable
Setting of interval time	1s ~ 99h59min59s, continuously adjustable
Setting of stop time	1s ~ 99h59min59s, continuously adjustable
Rotary speed	50 ~ 150rpm
Storable cycle programs	1 ~ 20
Storable SOPs	10 groups
Batch size / feed quantity	10 ~ 200ml
Load display	the LCD display shows
Grinding way	dry, wet, frozen
Mortar and pestle materials	hardened steel, stainless steel, tungsten carbide, onyx, corundum, zirconia, hard porcelain
Mortar and pestle pressure adjustment	indication of the pressure level by means of a graduated scale
Type of collection container	cyclone separator, ring filter
Scraper pressure adjustment	by knob
W × H × D	390mm × 455mm × 285mm
Net weight	Approx. 40Kg
Electrical supply data	AC220V, 50Hz/60Hz, 150W

Grinding tips:

- ①When grinding oil seeds, pure quartz sand can be added as a grinding aid
- ②For hard-to-grind samples, freeze treatment or the addition of grinding aids can be used to achieve better sample preparation results
- ③For the preparation of pasty samples, the mortar can be heated in a drying oven together with the ground sample to approx. 40 degrees Celsius



Application



Nuts



Quartz



Building materials



Medicine



Yeast cell



Soil



Glass



Food



Minerals



Metals

Detail Design



①Mortar and pestle pressure adjustment, clockwise rotation pressure increases, vice versa decreases

②Scraper adjustment, just touching the wall of the mortar is appropriate, the factory has been set up

③Pestle and mortar anterior/posterior position adjustment, factory-set

④Viewing port to observe the real-time grinding status of the sample

⑤Inlet, where the sample enters, can hold a funnel

⑥LED lighting inside the grinding chamber for clear observation of the grinding status

⑦Load displays the current load status and adjusts the mortar and pestle pressure accordingly with overload protection.



Optional Guide

When selecting a grinding kit, consider whether the hardness value of the grinding kit is suitable for the hardness of the sample and whether the material of the grinding kit will affect subsequent analysis.

General recommendations for mortar and pestle, mortar and pestle material and applicable samples:

Hard porcelain and corundum: Suitable for soft to medium-hard and pasty samples.

Agate, zirconium oxide and tungsten carbide: Hard, corrosion-prone materials are subjected to prolonged sampling scenarios that require the absence of heavy metals.

Stainless steel and hardened steel: For less demanding or rough processing and grinding of frozen yeast cells.



corundum



hard porcelain



agate



zirconia



tungsten carbide



stainless steels

General recommendations for scraper material and applicable samples:

Polyurethane: corrosion resistant

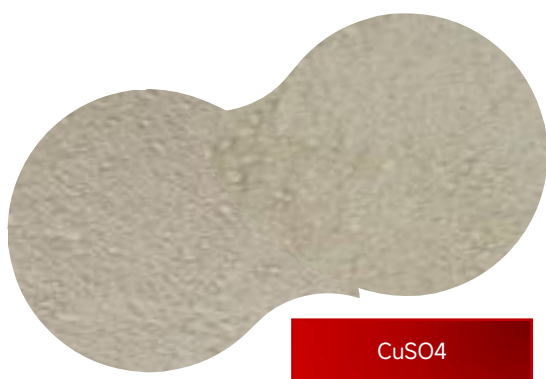
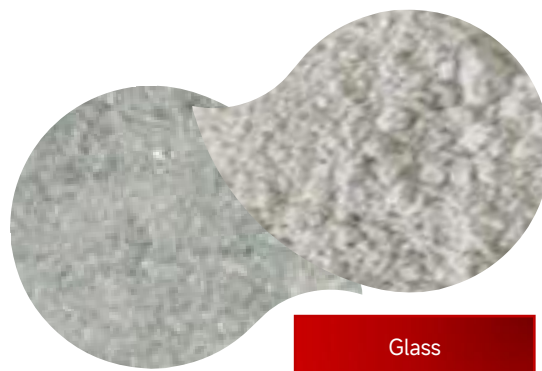
Beech wood: pharmaceutical industry

PTFE: suitable for freeze grinding process





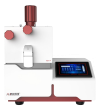
***A**pplication Examples*





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Milling Series

 AM100S Vibratory Ball Mill	 AM200S Mortar Grinder	 AM300 Cutting Mill	 AM300S Cutting Mill	 AM350 Beater Mill	 AM360 Turbo Mill	 AM400S Planetary Ball Mill
 AM410 Planetary Ball Mill	 AM420 Planetary Ball Mill	 AM500S High Speed Rotary Mill	 AM600S Knife Mill	 AM700 Jaw Crusher	 AM710 Extrusion Crusher	 AM750S Bench Jaw Crusher
 AM800 Disc Mill	 AM800CC Disc Mill	 AM810 Disc Mill	 AM900 Vibratory Disc Mill	 AM950 Vibratory Disc Mill		

Assisting Series

 AF100S 3D Vibratory Sieve Shaker	 AF150 Horizontal Sieve Shaker	 AF200S Sample Automatic Divider	 AF300 Vibratory Feeder
 AF400 Rotating Tube Divider	 AF450 Rotating Sample Divider	 AF500 3D Sample Mixer	 AF510 3D Sample Mixer

Intelligent Series

 AISP1678 / AISP1700 Intelligence Soil Preparation System	
 ADVVM1001 / ADVVM1001CS Vacuum Microwave Drying Series	

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