POWTEQ®

Mortar Grinder MG200

◇ Mortar Grinder MG200

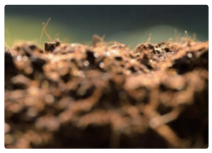
Mortar Grinder MG200 is used to grind, homogenize and mix a wide range of samples with dry/wet or cryogenic condition, which can grind hard, soft, brittle and pasty samples. They have extraordinary performance on the processing capacity, as well as easy and safe to operating.

○ Applications

Sample type： hard, soft, brittle and pasty samples.

Typical sample： Soils ,chemical products,medicinal herbs,yeast cell ,cocoa ,food ,grain ,oil ,fruit,salt ,slag, silicate ,glass ,ceramic and cement clinker



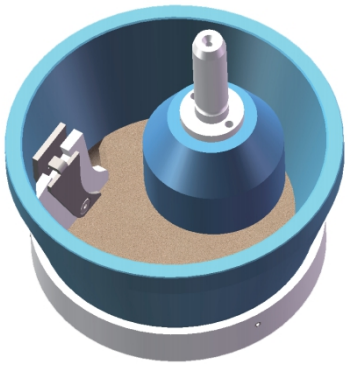


Application Examples

Before grinding	After grinding	Parameter	
		Sample	rice
		Configuration	mortar &pestle stainless steel
		Sample Characteristic	mid-hard
		Remarks	feed size is below 8mm
		Time	10min
		Sample	pill
		Configuration	mortar &pestle stainless steel
		Sample Characteristic	brittle
		Remarks	feed size is below 8mm,dry sample
		Time	3min
		Sample	soil
		Configuration	mortar &pestle of agate
		Sample Characteristic	soft,powder
		Remarks	remove the hard materials， feed size is below 8mm
		Time	5min

Working principle

The sample enters the grinding area between the pestle and mortar via hopper and is crushed by pressure and friction. The function of the scraper is to feed the material into the area between the mortar and pestle. This forced feed ensures that the whole sample is continuously subjected to the grinding and is also intensively mixed.



Units Function

Adjust the pestle vertically by rotating pestle head

The final fineness of sample depend on the position of the mortar and pestle

The position of the scraper is adjustable

Position of scraper between mortar and pestle is adjustable to ensure the sample fully and evenly mixed in the grinding process

◇ Features and advantages

○ Easy to clean

Easy exchange of mortar and pestle without tools after grinding and it's easy to clean the mill.

Easy and safe to operate

○The machine case and lid are made of hard alloy.

○It is easy to operate and ergonomically designed.

○The grinder is equipped with magnetic switch to judge whether the lid is closed or not, and the grinder only starts when lid is closed.

○The mechanical device parameter can be set and adjusted quickly and easily.

○LED will light up when the observation window opened for easy observation of sample grinding process

○ Skills to achieve the best grinding effect

○ Before preparing the paste samples, firstly you can put the mortar and sample (eg cocoa) into the drying oven and heat to 40℃.

○ In the preparation of chemicals and pharmaceuticals, please add grinding aid to prevent caking phenomenon.

Sample: yeast cells

Property: hard,elastic

batch quantity: 100g

Feed size: <5μm

Subsequent analysis: DNA extraction

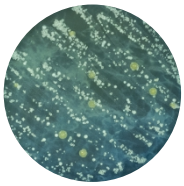
Grinding time: 10 min

Grinding material: mortar and pestle of stainless steel

Grinding condition: Adding the Liquid Nitrogen during the grinding

Final fineness: <5μm, homogenized powder

* It's difficult to process some samples such as yeast cells. You'd better freeze the sample with liquid nitrogen to make them more brittle and easy to mill.



○ Features and advantages

○ Suitable for dry,wet & cryogenic grinding

○ Pretreatment for some rough samples

○ Adding samples through the filling opening during the operation

○ A variety of scraper materials are available (polyurethane, PTFE, beech wood) to application requirements

○ Grinding set of MG200----Meet different applications due to a wide selection of grinding mortar and the pestle

Recommendation-mortar and pestle(with six kinds of grinding materials for choice)

Grinding set materials	Hardness	Abrasion resistance	Sample type	Dry grinding	Wet grinding	Cryogenic grinding
Stainless steel	48-52HRC	good	Medium-hard,brittle	YES	YES	YES
Hardened steel	60HRC	good	Medium-hard,brittle	YES	NO	NO
Tungsten carbide	1180-1280HV30	Very good	Medium-hard,fibrous	YES	YES	YES
agate	6.5-7.0Mohs	good	Medium-hard,soft	YES	YES	NO
Sinter aluminium oxide	1750HV	Normal	Medium-hard,soft	YES	YES	NO
Zirconium oxide	1200HV	good	Medium-hard,soft	YES	YES	NO

○ Mortar and pestle

Sintered aluminium oxide　　Agate　　Stainless steel

○ Technical data

Feed size	< 10mm	Display	LED 5 inch control panel
Final fineness	<5μm(depending on the sample property)	Lock device	Internal helix-screw device
Speed	50-130rpm	Instrument size	400*480*500mm
Time setting	00：01~99：59（hr/min）	Package size	620*620*770mm
Batch quantity	10-200ml	Net weight	41kg
Rated power	200W	Power supply	220V，50/60Hz