

◇ 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



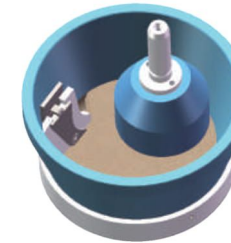
MG200

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

Adjust the pestle horizontally by rotary knob

Viewing window

Filling opening

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.

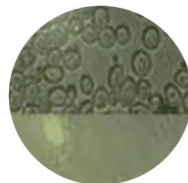
○ Skills to achieve the best grinding effect

- Before preparing the paste samples, firstly you can put the mortar and sample (eg cocoa) into the drying oven and heat to 40°C.
- 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) 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 | 600*600*610mm |
| Batch quantity | 10-200ml | Net weight | 41kg |
| Rated power | 230W | Power supply | 220V, 50/60Hz |