

POWTEQ PRODUCTS

Please keep contact with POWTEQ if you have any further questions.



Cryo Grinder LM200



Micro Ball Mill GT300



Planetary Ball Mill BM40



Planetary Ball Mill BM6Pro



Mortar Grinder MG200



Twister TW100



Multi-functional Mill CM100M



Portable Cutting Mill CM50



Cutting Mill CM200



Ultra Centrifugal Mill FM200



Knife Mill HM100



Knife Mill HM300



Jaw Crusher JC5



Jaw Crusher JC6



Disc Mill DP100



Vibratory Disc Mill VM3



Sample Divider MOD200



Vibratory Sieve Shaker SS2000



3D Mixer M10



Smart Graphite Digester

* Technical improvements will be made without prior notice
 * The warranty period of the hosts is two years

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Cryo Grinder LM200

◇ CryoGrinder LM200

With the rapid development of science and technology, DNA detection and polymer analysis are becoming more and more important. In order to maintain the original components and biological information of samples, it is necessary to adopt low-temperature pulverization. CryoGrinder LM200 chills the sample in liquid nitrogen and pulverize them with a magnetically driven impactor. The sample become brittle and the volatile components are preserved under the low temperature, so that a good grinding effect can be achieved.

The automatic control function of liquid nitrogen content avoids the contact and danger of manual operation. CryoGrinder LM200 can also be used in dry grinding at normal temperature.



○ Application

It is applied to samples with strong toughness and thermal sensitivity that are difficult to be ground and crushed at room temperature, such as rubber, plastic, food, mineral, animal and plant tissue analysis, drug, biochemical DNA detection, cell disruption and other fields.

○ Typical sample

polymers, rubber, textile materials, grain particles, hair, nails, skin, bones, muscle tissue, etc.

○ Various specifications of grinding jar and impactor, suitable for a wider range of applications

- Provide different size grinding jars, satisfy the requirement of hard, medium hard, soft, brittle, elastic, fiber samples grinding.
- To achieve better grinding effect, the appropriate size of grinding jar should be selected according to the amount of the grinding sample. It is suggested that the sample filling amount should be 5%-25% of the volume of the grinding jar (depending on different sample characteristics).



○ Working principle

Size reduction is taken place by electromagnetic oscillation impact. The sample and the metal impactor are loaded into the grinding jar together. The grinding jar is sealed with plug head by the two ends and put into the electromagnetic vibration drum coil. Electromagnetic coil with grinding jar immersed in liquid nitrogen to be pre-cooled. The whole grinding process is carried out in liquid nitrogen (-196 °C). The magnetic force generated by the coil drives the impactor to move horizontally, thus continuously impact on then grind the sample that has been frozen and embrittled.

Move horizontally Impactor



○ Features and advantages

- Electromagnetic vibration impact guarantees fast grinding speed, high precision, good uniformity and repeatability;
- The liquid nitrogen automatic filling system automatically supplement the liquid nitrogen consumed in the process of sample freezing and grinding to ensure the stability and safety;
- Industrial touch screen control panel, impact frequency, pre-cooling time, impact grinding time, cycle grinding times can be set, easy to operate and reliable;
- Safety design: when the cover of the instrument is open, the instrument cannot be started; Only when the instrument cover is closed and locked can the instrument be started;
- Streamlined and ergonomic design, simple and convenient operation;
- When the liquid nitrogen level is lower than the set value, the liquid sensor will alarm and automatically replenish the liquid nitrogen; and the instrument stops running to protect the electromagnetic coil from damage.

○ Technical data

Single grinding time	2min	Liquid nitrogen filling system	Manual/ automatic optional
The shortest pre-cooling time	4.5min	Impact frequency	5-15Hz
Batch capacity	0.1-100g	Rated power/Power supply	450W/220V , 50Hz
Pre-cooling chamber	200ml	Instrument size	510* 440*450mm
Grinding chamber	200ml	Package size	720*605*680mm
Grinding jars	4groups (4 × 3=12pieces) jars of 3ml/4 jars of 20ml /one jar of 100ml/one jar of 200ml		