

POWTEQ Products



Mortar Grinder MG100



Mortar Grinder MG200



Planetary Ball Mill BM40



Planetary Ball Mill BM6Pro



Micro Ball Mill GT300



Twister TW100



Multi-functional Mill CM100M



Cutting Mill CM200



Ultra Centrifugal Mill FM200



Knife Mill HM100



Knife Mill HM300



Jaw Crusher JC5



Jaw Crusher JC6



Vibratory Disc Mill VM3



Disc Mill DP100



Vibratory Feeder VF200



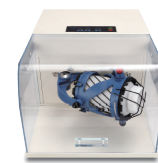
Rotary Sample Divider RSD200



Vibratory Sieve Shaker SS2000



Smart Graphite Digester



3D Mixer M10

(The warranty period of the hosts is two years)

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PRODUCT CATALOG



北京格瑞德曼仪器设备有限公司
Beijing Grinder Instrument Co., Ltd.

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The warranty period of the hosts is two years

COMPANY PROFILE

Beijing Grinder Instrument Co.,Ltd is a high-tech enterprise and a professional laboratory instrument manufacturer.The production base is located in Yanjiao Baishijingu Industrial Park,Hebei P.R.C China.We also have office and sales service agents in Beijing, Xi'an, Jinan, Guangzhou, Shanghai, Fujian, Liaoning etc.

Since the foundation of POWTEQ,we aim to be the leader of sample preparation mills, do our best to research and develop the grinding instruments with high quality. Our main products are including :Jaw Crusher, Disc Mill ,Cutting Mill,Mortar Grinder,Planetary Ball Mill,Micro Ball Mill,Ultra Centrifugal Mill and Knife Mill etc. All of them can meet different grinding requirements for laboratory sample testing.Our products are used in the fields of education,scientific research,metallurgy,biological,medicine, building materials, electronic manufacturing, energy saving and environmental protection, and have a good reputation in the sample preparation field.

The Mortar Grinder MG100 and Planetary Ball Mill BM4 are honoured as “Domestic Good Instrument” at the second Domestic Good Instrument selection. The domestic market is expanding progressively those years,at the same time, Powteq are busy exploring the international market actively .With the German red dot award winning design team to build two new products--MG200&BM6pro,which have a more extraordinary performance in handling capacity, operational comfort and safety.In addition, many Powteq's products submitted the CE certificates,which had been sold to Holland, Germany, Italy, Russia, Israel, Portugal, Kazakhstan, Turkey and other countries around the world.With excellent management, strong sales service outlets and timely pre-sales and after-sales service, Powteq passed the ISO9001:2015 international quality management system certification successfully.

In the future, Beijing Grinder Instrument Co.,Ltd will continue to focus on the cause of innovation& development of scientific instruments, to provide more richer product selection, more economical solutions and more comprehensive professional services to our customers,to be world's leading manufacturer of grinding instruments, demonstrating the charm of national brands.



Most professional , most perfect and most suitable sample preparation solution



○ Application consulting

POWTEQ company meet the requirements of customers for sample preparation instrument, provide professional technical consulting for different samples, help you to find the perfect solution.



○ Sample test

Free sample test, provide most suitable solution .



○ Technical service

POWTEQ’ s high-quality instrument , is with smooth performance ,long service life, easy installation and maintenance. If you have any technical questions ,please feel free to contact with us , we will supply the solution to you at first time.



○ Technical seminar

POWTEQ company holds technical seminars aimed at different industry in different place every year, provides the customer with the latest information on the products, sample preparation technology at first time.

GRINDING EQUIPMENT

Selection guide for grinding equipment (For reference only)

	Jaw crusher		Ultra centrifugal mill	Knife and Cutting Mill		
	JC6	JC5	FM200	HM100	CM100M	CM200
Max feed size*approx. (mm)	40	90	10	40	25	90
Final fineness*approx. (mm)	0.5	2	0.04	0.3	0.1	0.1-20
Chemical product	○	○	✓	○	○	○
Coal	✓	✓	✓		○	○
Building material	✓	✓				
Electric wastes/circuit board			✓		✓	✓
Fodder			✓	✓	✓	✓
Food			✓	✓	✓	✓
Glass/ceramic	✓					
Leather/textile	✓		✓		✓	✓
Mineral ore/rock			○			
Medical appliances			✓	✓	○	○
Plant/hay, straw			✓	○	✓	✓
Plastic/rubber/cable			✓		✓	✓
The second generation fuel			✓		✓	✓
Soil/sludge	○	○	○			
Wood/bone/confetti	○	○	✓		✓	✓

	Disc mill	Vibratory Disc Mill	Mortar grinder	Micro Ball Mill / Planetary Ball Mill		
	DP100	VM3	MG100/MG200	GT300	BM6Pro	BM40
Max feed size*approx. (mm)	20	15	8	10	10	10
Final fineness*approx. (mm)	0.1	0.04	0.005	0.005	0.0001	0.0001
Chemical product	○	○	✓	✓	✓	✓
Coal	✓	✓	✓	✓	✓	✓
Building material	✓	✓	✓	✓	✓	✓
Electric wastes/circuit board		○		✓	✓	✓
Fodder	○			✓	○	○
Food			✓	✓	○	○
Glass/ceramic	✓	✓	✓	✓	✓	✓
Leather/textile				✓	○	○
Mineral ore/rock	✓	✓	✓	✓	✓	✓
Medical appliances		○	✓	✓	✓	✓
Plant/hay, straw		✓	○	✓	✓	✓
Plastic/rubber/cable				✓		
The second generation fuel				✓	○	○
Soil/sludge	✓	✓	✓	✓	✓	✓
Wood/bone/confetti		○	○	✓	✓	✓

✓ highly suitable ○ partially suitable

● Mortar Grinder

○ Mortar Grinder MG100/MG200

Mortar Grinder MG series are 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.

- Simple operation, easy remove and clean
- Suitable for dry,wet & cryogenic grinding
- Energy input diagnosis can guarantee safe and reasonable operation
- Positioning and removal of mortar and pestle without tool

Newly launched product MG200

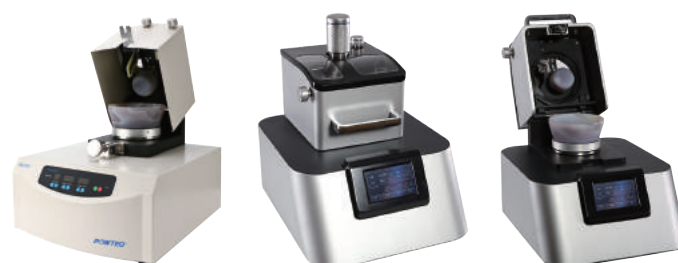
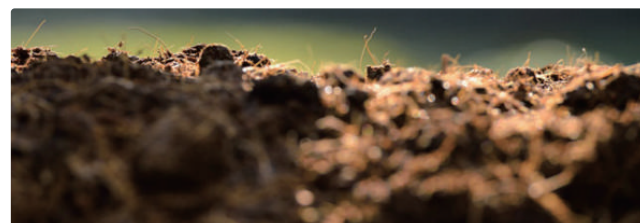
- German Red Dot Design Awards medalist' s masterpiece
- 5 inch LED display and touch control panel with high sensitivity
- Performance display for load control

○ Technical Data

Feed size	< 10mm
Final fineness	< 5μm
Speed	50-130rpm, speed is adjustable
Batch quantity	10~200ml
Rated power	MG100:200W;MG200:230W
Power supply	220V, 50Hz

○ Typical application

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



MG100

MG200

MG200



○ 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.



○ Grinding accessories-- seven kinds of material for your choice

- Stainless steel—Corrosion resistant,preventing rust
- Hardened steel ——Low cost、 popular quality
- Tungsten carbide——High hardness
- Agate——Heavy metal free, ensure the purity of sample
- Sintered aluminum oxide——High hardness and purity
- Hard porcelain——Ensure the purity of sample,suitable for the medicine industry sample preparation
- Zirconium oxide——High hardness, high strength,high tenacity,high wear resistance and chemical corrosion

Application Examples



soil



corn

Selection guide for mortar and pestle

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
Hard porcelain	--	Normal	Medium-hard,soft	Yes	Yes	No
Zirconium oxide	1200HV	good	Medium-hard,soft	Yes	Yes	No

In order to get a better grinding results, we recommend that the material of mortar and pestle must be the same.

● Micro Ball Mill

○ Micro Ball Mill GT300

GT300 is designed for modern laboratory applications. It can process small amount and large batch sample in dry,wet or cryogenic condition.

- Extremely short processing time.
- Designed for high sample throughput, up to 192 sample preparations.
- Wide range of grinding jars and accessories for extensive applications.
- Pre-setting of all working parameters digitally, the result is reproducible.

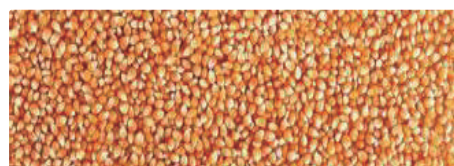


○ Technical Data

Feed size	< 10mm
Final fineness	< 5µm
Speed	180-1800rpm
Sample volume	0.2-20ml
Time	00: 01~99: 59(min/s)
Rated power	200W
Power supply	220V,50Hz

○ Typical application

plant root, stem, leaf, grain, seed; human and animal tissue, viscera, bone, hair; mineral, soil, glass, ceramic, rubber, plastic, solid waste, electronic waste, paper, textile, chemical, medicine, food.



GT300

○ Working Principle

The Micro Ball Mill can grind 2*96 samples quickly and efficiently only with 1-3min. The grinding jars of the GT300 perform horizontal oscillation in high frequency. The inertia of the grinding balls causes them to impact with high energy on the sample material and grind it. The movement of the grinding jars and balls result in the intensive grinding and mixing of the samples.

Application Examples



little mouse tail



leaf



soybean



○ Adapters for reaction vials



5,10,24 holes adapter to match with the 1.5/2.0ml reaction vial, and 6 holes adapter with 5ml reaction vials, 96 holes adapter with 1.2ml deep hole plates are available for choice. Mainly used for the separation of DNA and RNA.

○ Fast clamping jars



Fast clamping jars for:
Dry grinding
Wet grinding
Ultra fine grinding
Mechanical alloying

Different samples grinding parameters setting reference chart

Sample	Time setting	Sample tube	Grinding ball	Ball quantity	Pre-cryogenic
corn	1-2min	5ml pc	10mm	1	no
soybean	1-2min	5ml pc	10mm	1	no
cotton seed	1min	2ml	7mm	1-3	no
repeseed	2min	2ml	7mm	1	no
rice, purple rice, millet	1min	2ml	5-7mm	1-2	no
rice shell	1min	2ml	5-7mm	1-2	no
beetroot	6min	2ml	3-5mm	1-2	yes
wheat, corn leaf	30min	2ml	3-5mm	1-2	yes
spore bacteria such as microorganisms	2min	2ml	0.1-1mm	suitable	no
animal liver, brain	20min	2ml	5mm	1	no

- Speed setting: 1800rpm
- Grinding ball material: tungsten carbide, stainless steel, ZrO₂

● Planetary Ball Mill

○ Planetary Ball Mill BM40/BM6Pro

Planetary Ball Mills are suitable for grinding(dry\wet) and mixing some soft,hard,brittle and fibrous samples ,which are used wherever the highest degree of fineness required as well as the grinding result reproducible. Apart from the classical mixing and size reduction processes,the mills also meet all the technical requirements for colloidal grinding.

○ Application field

engineering/electronics, building materials, agriculture, medicine, chemical/synthetic materials, geology/metallurgy,environment/resource recovery, glass/ceramics, biology



○ Technical Data

	BM40	BM6Pro
Feed size	< 10 mm	< 10 mm
Final fineness	< 0.1μm	< 0.1μm
Speed	30-400rpm	100-650rpm
Speed ratio	1:-2.2	1:-2
Grinding stations	4 / 2	1
Grinding jars	50 、 80 、 125 、 250 、 500 ml	50 、 80 、 125 、 250 、 500 ml
Rated power	1.5KW	750W
Power supply	220V, Hz	220V, 50Hz

○ Working Principle

When the planetary ball mill starts, the motor drives the common sun wheel to move, while the grinding jars, which are located on the sun wheel, turning around its own axis. The direction of the movement of the sun wheel is opposite to that of the grinding jars in the ration 1:-2.The grinding balls in the grinding jars are subjected to superimposed rotational movement, the so-called Coriolis forces. Under this interaction, the grinding balls release high dynamic energies. The samples are constantly impacted by the grinding balls, and rapid crushed by the friction of the grinding jar’ s inner wall at the same time.



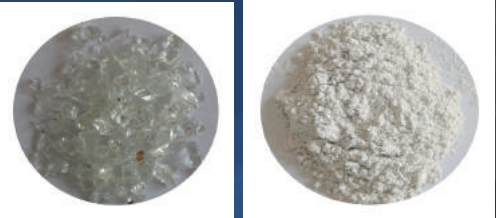
Pressure and temperature measuring system



Grinding jars with 6 kinds of material (stainless steel, agate, sintered alumium oxide、 zirconium oxide、 tung-sten carbide、 silicon nitride)

- Grinding chamber automatic ventilation system for grinding jar of cooling.
- Safe and easy operation.
- Automatic direction reversal to avoid agglomerations.
- Suitable for long-term and continuous operation
- Powerful and quick grinding down to nano fineness.
- BM40 and BM6Pro with a comfortable parameter setting and ergonomic 1-button operation. The LED display shows the parameter digitally and the running state could be observed easily.

Application Examples



glass



limestone



pearl powder

● Ultra Centrifugal Mill FM200

FM200 applies to a wide range of samples. Based on its high efficiency grinding technology and rich accessories, with two-steps grinding of rotating knife - ring screen system ,it can process dry and wet grinding in a very short time for the soft, hard, brittle, fibrous samples.

The Ultra Centrifugal Mill can realize two-stage crushing for samples with the rotor and ring sieves. Samples are fed from the hopper with anti-splashing design. Under the effect of high speed centrifugal force, the falling samples and the high speed rotor generate a giant impact force to perform pretreatment for samples; then the samples are sheared, extruded and rubbed again between the rotor and ring sieves. The sample will enter into the collecting pan when the size is less than the aperture of ring sieves. The two-stage crushing guarantees moderate and efficient grinding results. Due to the high crushing efficiency, the period of samples staying in the grinding chamber is quite short so as to avoid changes of sample natures.

○ Diversified accessories

○ Rotor

There are 3 kinds of rotors for choice, 24 teeth, 12 teeth and 6 teeth. The 24 teeth is for the crushing of fine sample, while the 12 teeth for general sample and the 6 teeth for coarse massive sample.

* The material of all the rotors and the ring sieves not only has stainless steel but also the heavy-metal-free for choice to meet different laboratory requirements.

○ The final fineness less than 40μm.

○ Rich accessories for choice ensures diversified application.

○ Low noise, reliable operation, easy cleaning.

○ Touch control panel, convenient and quick.

○ Ring sieves

Final fineness depends on the different aperture ring sieve. We also provide the reinforcing screen to enhance the stability of the ring sieve.

○ Technical Data

Feed size	< 10mm
Final fineness	< 40μm
Motor speed	6000-18000rpm
Collecting pan volume	900ml(volume of the sample collected no more than 300ml)
Ring sieve	0.12,0.20, 0.50, 1.00, 2.00.mm
Rated power	760W
Power supply	220V, 50Hz

FM200



● Knife Mill

○ Knife Mill HM100

The HM100 has two-blade knives at the center of the bottom of a grinding cup. A certain height gap is kept between the blades. Driven by a motor of 1,100W, the knives start rotating. Reliable crushing and homogeneous phase effects are generated via the cutting of the sharp steel knife edges. The blunt side can be selected for coarse grinding of bulk samples or the tough side for fine grinding of samples. The motor speed is electronically controlled and can be preset. The constant speed guarantees efficient and high-quality grinding homogenization. You just need 10 to 30 seconds to process samples that are usually hard to crush and get homogenized samples for analysis.



○ Applications: agriculture,biology,medicine,food

○ Strong motor power 1.1KW, speed adjustable

○ The sample volume up to 700ml

○ Three modes optional: interval mode, reverse mode and press-and-play mode

○ Coarse grinding and fine grinding can be realized in one step

○ Grinding container in various material

○ Accessories can be sterilized at high temperature and to prevent heavy metal contamination

○ Technical Data

Feed size	< 40mm
Final fineness	< 300μm
Motor speed	2000-10000rpm
Time setting	00: 01~99: 59(min/s)
Number of blades	2
Interval mode	Yes
Rated power	1.1KW
Power supply	220V, 50Hz



HM100

● Multi-functional Cutting Mill

○ Multi-functional Cutting Mill CM100M

Multi-functional Cutting Mill CM100M, which is a unique product from Grinder. It is suitable for various soft, tough, fibrous and hard dry samples. It can be used for batch processing and continuous coarse crushing and fine crushing.

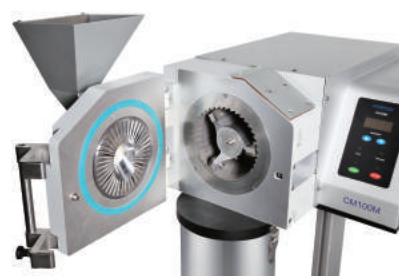
M1 cutting type can handle fibrous, tough materials, such as tobacco, leather, circuit boards and so on;

M2 cross beater type can deal with the mid-hard, brittle materials (hardness no more than 6Mohs), such as slag, coke, soil and so on;

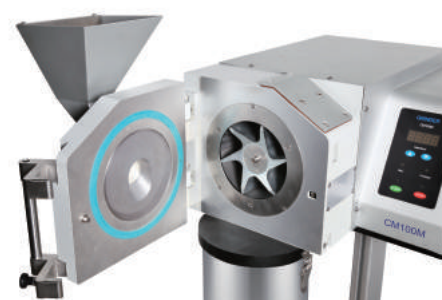
M3 rotor beater type can handle soft, food samples, such as cereals, feed and chemicals.



M1:cutting type



M2 :cross beater type



M3: rotor beater type

- Through three different grinding accessories to achieve different functions, which is suitable for wider range of samples.
- The final fineness is up to 100 microns. The size of the sample is controlled by the bottom sieve and sieve with different sizes can be selected.
- A large amount of sample can be processed continuously, ranging from a few kilograms to several hundred kilograms per hour.
- All the three types can be equipped with small sample receiver and cyclone separator, which is convenient for sample collection, chamber cleaning and heat generation reduction.
- Equipped with crushing dust collection device to prevent cross contamination.
- It can be fixed on the floor and equipped with casters to move easily.
- With quick locking device and motor braking, it has high safety performance.
- The grinding process is rapid and produces less heat.

○ Cutting Mill CM200

○ Cutting Mill CM200

CM200 is an ideal machine for the sample pretreatment of heavy-metal-free RoHS and WEEE test (e.g. rubber, plastics, garbage, circuit board, etc.). It is always used to process solid samples in batch or continuously, such as the wood, paperboard, paper, spice, straw, leather, rubber, raw material, bone, animal feed, cable, plastic, electric wastes, non-metallic waste, grain, lignite, peat and so on . For the long fiber and big volume sample it can process directly and do not need the pre-crush.

○ Accessories

○ Rotor (M1 and CM200)

RotorA: standard rotor, mainly used for crushing hard and fibrous samples (such as straw).

RotorB: 6-disc rotor, mainly used for crushing medium hard, flexible and light samples (such as plastic, rubber, circuit board).

○ We also provide rotors and sieves made of special material for heavy-metal-free crushing.

○ Hopper (M1 and CM200)

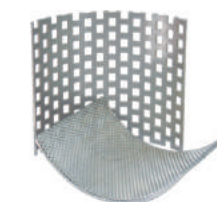
Two kinds of feed hopper, universal V type feed hopper (1) and standard feed hopper(2).

(1) is suitable for block and granule samples, and (2) suitable for long strips of plant or other materials.

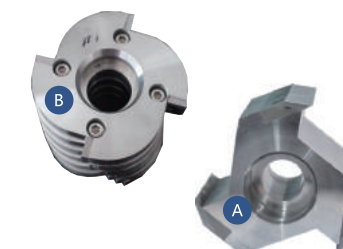


○ Bottom Sieves

You can select the suitable sieves according to the sample nature and the final fineness required.



CM200



○ Technical Data

	CM100M	CM200
Feed size	< 25mm	< 60*80mm
Final fineness	< 100μm	0.1~20mm
Speed	500-4000rpm	500~3000rpm
Sieves	0.20/0.50/ 1.00 / 2.00/ 4.00 /6.00/ 8.00/ 10.00/ 20.00 mm	
Handling capacity	≥30Kg/hr	5L or 0.2L ,60Kg/hr
Rated power	1.5KW	3KW
Power supply	220V, 50Hz	380V, 50Hz

● Twister TW100

○ Twister TW100

The cyclone mill TW100 is especially designed for food and feed sample preparation. It is suitable for various analytical techniques, such as NIR near infrared spectroscopy, Kjeldahl nitrogen determination, fiber determination and solvent extraction. The special design of the rotary knife, grinding cavity and grinding screen not only ensures the sample is not affected by the heat so as to guarantee the grinding effect, but also makes the cleaning quick and convenient.

- Powerful motor and high speed ensure high grinding efficiency
- Cyclone separator can collect samples quickly
- No cross contamination, easy to clean
- Professional industrial design, long service life

○ Technical Data

Feeding size	<10 mm
Final fineness	<250 μm
Speed Setting	10000~16000rpm
Rotor diameter	98mm
Batch feeding volume*	<250 ml
Rotor peripheral speed	82m/s
Rated power	1.1KW
Power supply	220V, 50Hz

○ Working Principle

The samples enter the grinding chamber through the feed hopper (with anti-splashing function). Influenced by the air flow generated from the high speed rotating knife (impeller), the samples impact and frict intensely with the rotary blade and fixed screen so as to be crushed in a very short time. The crushed samples are driven by the turbine airflow to the receiving bottle in the low pressure area. The turbine airflow provides additional cooling conditions and cleaning functions, which guarantees the preservation of the ground samples. TW100 can provide very fast and convenient samples treatment, and it is suitable for various analytical techniques.

○ Application fields

agriculture, pharmaceuticals, food, feed, chemistry

○ Typical samples

granule tablets, corn, cattle feed, noodles, medicine, beans, tobacco, etc.



TW100

● Disc Mill

○ Disc Mill DP100

DP100 is firm and durable, applicable to pre-grinding and fine grinding for medium hard, hard and brittle solid materials. It can grind samples into 100μm particles very quickly. The samples are grinded via the pressure and frictional force generated between a rotating disc and another fixed disc. After the sample enters into grinding chamber, the progressively arranged teeth of the grinding disc first subject the sample to preliminary crushing, centrifugal force then moves it to the outer regions of the grinding discs where fine grinding takes place. The ground sample falls into the sample receiver via the gap of the grinding discs.

- Simple operation, easy cleaning
- Grinding discs made of various materials are available for selection and wear-resistant
- The gap of grinding discs can be adjusted continuously
- The sample feed size up to 20mm
- Efficient sample treatment, extreme size reduction can be reached in a short period
- Dust discharge connector design can prevent sample powders from polluting environment

○ Technical Data

Feed size	< 20 mm
Final fineness	< 100μm
Speed	470rpm
Digital precision	0.01mm
The gap setting	0.1-5 mm
Rated power	1.5KW
Power supply	380V, 50Hz



DP100



Disc gap adjustment can be digital displayed

○ Applications

concrete, building debris, granite, basalt, silicate, gypsum, dry soil samples, depositional sludge, quartz, coal, coke, lime mud, refractory clay, glass and ceramics for dentistry and so on.



● Vibratory Disc Mill

○ Vibratory Disc Mill VM3

Vibratory Disc Mill is mainly used for sample preparation of spectral analysis. The device is especially suitable for fast fine grinding without loss. No matter the materials are medium hard, hard, brittle or fibrous the VM series grinder can perform sample preparation treatment in dry conditions (namely dry grinding). There are five kinds of grinding sets in material: hard steel, tungsten carbide, agate, zirconium oxide and high manganese steel, which can meet your extensive application requirements.

○ Applications

ceramics and glass,environmental area, minerals & metallurgy,building materials



- Extremely short grinding time
- High final fineness (d95 <40μm)
- Grinding sets made of five different kinds of materials are available for choices
- Unique assistance device facilitates the movement of grinding cups
- Compact floor type design saves space.
- Grinding cups of five kinds of volumes can be equipped
- The design of safety protection lock can guarantee safe operation.

○ Technical Data

	VM3
Feed size	< 15mm
Final fineness	< 75μm
Speed	700-1500rpm
Batch quantity	20-250g
Grinding time setting	00:01-99:59 min
Rated power	1.5KW
Power supply	220V, 50Hz



VM3

○ Working Principle

The Vibratory Disc Mill crush sample via pressure, impact and friction. The quick-action clamping device makes the grinding set firmly attached onto the vibrating plate. Through transmission, the vibrating plate will generate drastic three dimensional vibrating so as to produce giant impacting, frictional and grinding force on the grinding set, and such forces focus on samples to make them become powder in a very short time.

○ Grinding sets maded of different kinds of materials

○ Hardened steel

The main characteristic of hardened steel is corrosion resistance and rust prevention. For processing corrosive sample, grinding set of this kind of material is a good choice.

○ Agate

This material is heavy-metal-free and can guarantee the grinding purity. It is suitable for processing soil and some medium-hard sample. If you want a high grinding purity, you can choose the grinding set of this kind material.

○ Tungsten carbide

The hardness of tungsten carbide is high and similar to that of diamond. It is suitable for processing high hardness sample. Two kinds of the volume (500ml and 800ml) are available for choice.

○ Zirconium oxide

Zirconium oxide has excellent physical and chemical properties such as high hardness, high toughness, high abrasive and corrosion resistance. This material grinding set is the best choice for handling chemicals such as ceramics.

Application Examples



brick

limestone



ceram



● Jaw Crusher JC5/JC6

○ Jaw Crusher

Jaw Crushers are used to process medium-hard, hard, brittle and tough sample fast and gently. The Jaw plates have 6 kinds of material to choose. This series of products with superior technical and safety performance, so it is your ideal choice in the laboratory and enterprise production for the sample preparation.



○ Applications

Mining and metallurgical industries, chemical products, geological and mineralogical, ceramic industry, building materials.

- The jaw plate gap is continuously adjustable
- Zero point adjustment to compensate the wear
- Comfortable operation and easy cleaning
- we can provide jaw plates in different materials (manganese steel, stainless steel, tungsten carbide, zirconium oxide, steel of heavy- metal-free, industrial plastic)
- Anti-splashing hopper

○ Technical Data

Feed size	< 90 mm
Final fineness	< 2mm
Speed	690rpm
Collector capacity	5L
Gap setting	0 - 30 mm
Rated power	2.2KW
Power supply	380V, 50Hz

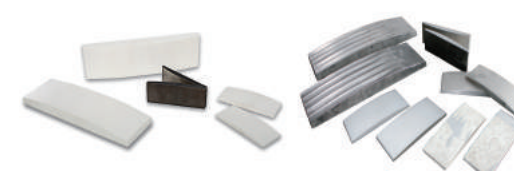


JC5

○ Working Principle

The sample enters the grinding chamber via the anti-splashing hopper. The crushing is proceeded inside the wedge-shaped shaft space between two jaw plates. one jaw plate is fixed, while the other jaw plate is driven by a bent axle to perform oval movement with the continuous rotation of the motor. The sample is crushed due to extrusion caused by constant movements of the jaw plate and moves downward under the effect of gravity. In case the grain size of the sample is less than the lower opening gap of jaw plates, it will fall to the drawer receiver at the lower part of the machine.

○ Surface structure of the breaking jaws



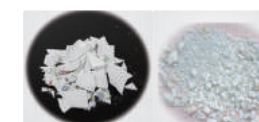
Jaw plates in different materials

Manganese steel	grooved
Stainless steel	grooved
Tungsten carbide	smooth
Zirconium oxide	smooth
Heavy-metal-free steel	grooved
Industry plastic	smooth

Application Examples



mineral



ceramic



cement

- The sample collecting tank is easy to clean
- Adjustable speed, forward and reverse rotation can be set.
- Easy operation and the high final fineness .

○ Technical Data

Feed size	<40 mm
Final fineness	<0.5 mm
Speed	500-1000rpm
Collector capacity	3L
Gap setting	0 - 11 mm
Jaw plate width	59.5mm
Rated power	1.1KW
Power supply	220V, 50Hz



JC6

AUXILIARY EQUIPMENT

● Vibratory Sieve Shaker

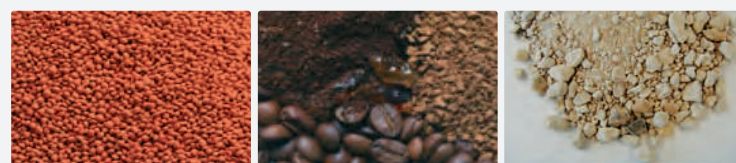
○ Vibratory Sieve Shaker SS2000

SS2000 is used to batch sieve the solid particle or powder samples. Its electromagnetic drive system guarantees the result is achieved not only in a very short time but also accurate and repeatable. It can perform dry sieving and wet sieving for samples and most parameters can be digital preset. The devices are maintenance free and operation is very quiet.

- Low noise, maintenance-free
- Digital setting, all sieving parameters can be preset, simple operation.
- Dry, wet sieving
- It can be connected to the computer and controlled by the screening software to perform data processing and analysis, screening evaluation.

○ Applications

SS2000 applies for all the inorganic and organic compounds including the sand, rocks, clay, granite, feldspar, coal, soil, grains, seeds and all kinds of solid particles.



○ Technical Data

Measuring range	20μm-25mm
Amplitude adjustment range	0.2-3.0mm
Time setting	01~99min
Interval operation adjustment range	00~99s
Sieve diameters	100/150/200/203mm (8")
Max. mass of sieve stack	9
Drive /sieving mode	electromagnetic drive
Rated power	400W
Power supply	220V, 50Hz



SS2000

● Vibratory Feeder

○ Vibratory Feeder VF200

Vibratory Feeder VF200 is designed to facilitate automatic sample feed for bulk particle or fine powder samples. It can be used in conjunction with the Sample Divider RSD200 and Ultra Centrifugal Mill FM200 produced by POWTEQ Company.

Samples fall to the vibrating chute via the feed hopper. By adjusting the vibration frequency, the speed of samples (namely sample feed speed) on the vibrating chute can be changed. Finally, the samples fall to the target device for next step processing.

○ Applications

Engineering/electronics, building materials, agriculture, pharmaceuticals, chemical/synthetic materials, metallurgical, geological/environment/resources recycling, glass/ceramics, food biological.



- The feed speed can be adjusted continuously
- Stable, uniform feeding
- Easy installation and operation
- Parameters are digital and can be preset
- Easy cleaning of push-fit feed chute

○ Technical Data

Feed size	< 12mm
Speed setting	0-50
Time setting	01-99min
Width of the chute	75/40mm
Hopper volume	2.2L
Rated Power	40W
Power supply	220V, 50Hz



VF200

● Smart Graphite Digester

Based on the principle of being practical, durable and user-friendly, Broadfield graphite digesters are produced with innovative technology. These digesters have features such as rapid temperature rise, temperature programming, remote control, complete digestion, high efficiency and convenience, etc. They are widely used for various industries such as foods, medicine, agriculture, forestry, environmental protection, disease control and chemical engineering and so forth.

- Multiple configurations, flexible options
- Digestion in normal pressure guarantees safe operation
- Intelligent control, flexible and safe
- Temperature programming for efficient digestion
- Graphite material, infrared heating
- Dual sensors, accurate temperature measurement
- Advanced algorithm, stable temperature
- Antiseptic design, stable and reliable
- Alarm design, guarantees safety



○ B Series technical specification

Description	B160	B250	B360
Temperature range	environment~240°C		
Temperature zone	single temperature zone		
Sample specification	16holes-Φ30	25holes-Φ42	36holes-Φ30
Hole temperature uniformity	± 1.0°C (@95°C) ± 2.0°C (@195°C)		
Temperature resolution	0.1°C		
Temperature accuracy	± 1.0°C, It can be calibrated at 9 temperature points		
Power	900W	1400W	1400W
Rate of temperature increase	10 °C/min, <95°C 8 °C/min , <195°C		

○ BH Series technical specification

Description	BH160	BH250	BH360
Temperature range	environment ~ 450°C		
Temperature zone	single temperature zone		
Sample specification	16holes-Φ30	25holes-Φ42	36holes-Φ30
Hole temperature uniformity	± 1.0°C (@95°C) ± 2.0°C (@195°C) ± 3.0°C (@395°C)		
Temperature resolution	0.1°C		
Temperature accuracy	± 1.0°C, It can be calibrated at 9 temperature points		
Power	1800W	2800W	6000W
Rate of temperature increase	10 °C/min , <95°C 8 °C/min , <195°C 5 °C/min , <395°C		

● Rotary Sample Divider

○ Rotary Sample Divider RSD200

The RSD200 can evenly divide one sample to 6, 8, 10 uniform small samples. Each small sample has the same physical and chemical properties, and can represent the attributes of the whole batch of samples. Currently, the divider is the most accurate sample dividing device on the market.

Samples enter a taper-shaped rotating pipe via the feed hopper of the vibratory feeder. The rotating pipe rotates at a constant speed; samples move to the channels under the effect of centrifugal force and are collected inside the containers outside the above channels. The samples in all containers have the same physical and chemical properties.

○ Technical Data

Feed size	< 10 mm
Speed adjustable range	80-120rpm
Time setting	00:01~99:59(hr/min)
Number of divisions	6/8/10
Volume	25/100/250/500ml
Rated power	40W
Power supply	220V,50Hz



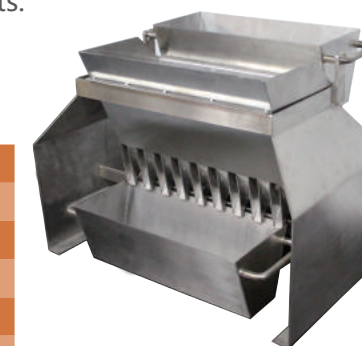
● Sample Splitter

○ Sample Splitter SD12.5

When using the splitters to divide samples, the samples can evenly fall to sample splitting slot. The sample splitting slots designed in a cross way, so samples fall to the two underneath sample receiving container respectively. The quantity of samples can be halved by performing one sample separation. You can repeat such operations until the quantity of samples meets your test requirements.

○ Technical Data

Technical Data	SD6.5	SD12.5	SD25	SD37.5	SD50	SD75
Instrument size	400×250×320mm					
Material	Stainless steel					
Slot size	6.3mm	12.5mm	25mm	37.5mm	50mm	75mm
Number of slots	12	18	16	12	8	6
Max feed size	4mm	8mm	26mm	25mm	33mm	50mm
Max charge	3L	3L	16L	16L	16L	16L



SD12.5

● Three-dimensional Mixer M10



○ Three-dimensional Mixer M10

M10 is suitable for mixing the particulate solid and liquid samples. It can ensure reliable analysis results by rotating evenly, so it is an ideal choice for quality control and R & D.

According to Schatz Geometric theory, the different specific gravity samples are placed into a closed container and kept rolling-over, inverting, rocking in a multi axial space until to the maximum uniformity.

○ Applications

Chemical materials, semiconductor materials, aviation materials, pharmaceuticals, etc

- Easy operation, convenient to use
- Dust-free operation, no environmental pollution
- Low noise and high handling capacity

○ Technical Data

Volume	2L
Speed setting range	20-100rpm
Time range	00: 01~99: 59 (hr/min)
Rated power	200W
Power supply	220V, 50Hz

● Knife Mill HM300

The knife mill HM300 is a new instrument, which is suitable for grinding and homogenizing large amount of samples to the analysis level in a short time.

○ Application field

Feed material property: soft, medium-hard, elastic, dry, fibrous, containing water / fat / oil.

Typical samples :

- Agriculture: grain, animal food, seeds.
- Biology: mouse tissue, plant leaf, seeds, seeding and germ etc.
- Medication: Chinese herbal medicines, pill.
- Food: fruit, vegetables, frozen foods, Cocoa, candy, preserved fruit and meat

○ Product Advantages

- 5 inch LED touch screen display, easy to operate.
- Powerful brushless motor, the speed can be adjusted at the range of 500- 4000 rpm.
- Designed with double-deck 4 pieces of straight blades to ensure higher grinding efficiency.
- The mill designed with electromagnetic lock. It's safe and reliable. The cover can not be opened during grinding process.
- With interval mode, regular mode and reverse mode.
- 10 SOPs can be stored.
- It allows for dry grinding and wet grinding.

○ Technical Data

Feed size	<130mm
Final fineness	<300μm
Speed	500 - 4000 rpm, digital and adjustable
Grinding time range	0: 01-5: 59(min/s), digital
Volume of grinding container	5L
Batch grinding capacity	4L
Blades number	4 pcs
Interval operation	Yes
Rated power	1.5kW
Rated voltage	220V, 50Hz



HM300