



## NEW PRODUCTS 2021

- Hammer Mill CB1000
- Soil Mill DP50
- Biological Homogenizer LM50(R)
- Knife Mill Auto-HM600
- Jaw Crusher JC7
- Air Jet Sieving Machine AJ200
- Automatic Pellet Press BP40



## ◇ Hammer Mill CB1000

Hammer mill CB1000 process samples by impacting effects which suitable for brittle, mid-hard samples preparation. Also it could process large batches of coarse and fine grinding, widely used in power plants and sample preparation labs for coal quality analysis by its easy handling, efficiency, and accuracy, less residual in mill chamber as well.



CB1000

### ○ Working principle

Samples are fed into the center of mill chamber through patent feeding hopper, then it impacted with cross beater rotor moving at high speed and frequency to reduce particle size. Once the particle size is less than sieve holes, it will fall into collecting pan. Massive air will be absorbed by the rotor through feeding tunnel which accelerate reduced particle leave mill chamber.

### ○ Performance advantages

- Electric braking ;
- Bench-top, easy handling, saving space ;
- Auto-feeding system, reduce operational error and contamination;
- Rotors and bottom sieves separating easily, convenient to clean mill chamber ;
- Controllable reduced particle size from 0.12mm to 10mm by bottom sieves diameters ;
- High frequency and high rotate speed motor(10000rpm) fulfilled efficiency milling and less residual in mill chamber.



### ○ Technical Data

Max feed size	< 4 mm
Final fineness	< 0.2mm ( 99% )
Rotor peripheral velocity	76.3 m/s
Rated power	1.1 KW

### ○ Applied filed

Coal, coke, soil, glass, minerals, refractory clay, oxide, porcelain, granite etc.



## ◇ Soil mill DP50

Soil mill DP50 is a fine grinding instrument. Not like other vertical disc designed mill in market, its discs stacked up and down in level, size reduction under 75 microns for mid-hard and brittle samples very fast. The reduction taken placed in a fixed mill disc and a moving mill disc. Easy handling, efficiency milling and less residual in mill chamber make DP50 a favorable choice for large batches environmental soil tests.



DP50

### ○ Working principle

The comminution effects are generated by the pressure and friction forces caused by a moving disc rotate against a fixed disc right below. The sample enter to the mill chamber from the center of discs, it would be pre-crushed there and then moves to the outer regions of mill discs by centrifugal force to be finer grinded. The reduced particles fall into collecting pan through the milling discs outer regions after milling, so milling discs clean and sample collected.

### ○ Typical samples

Soil, building material, nuclear ore, cement, concrete, cinder, coke, glass, porcelain, minerals, refractory clay, granite, monohydrallite etc.



- By means of adjusting discs gap width precisely to achieve reproducible grinding result;
- Preliminary grinding and fine grinding both can be done;
- Mill chamber worked with hinge design, easy to clean;
- Long using time of milling discs;
- Various materials of discs for contamination free grinding;
- Dust-proof design.

### ○ Technical Data

Feed size	<2mm
Final fineness	<75 $\mu\text{m}$ (95%)
Rotate speed	800 rpm
Collecting pan volume	2.5L
Grinding sets material	Hardened steel, agate, zirconium oxide, sintered aluminum, tungsten carbide
Grinding gap width adjust range	0-30 mm
Rated power	550 W
Power supply	220V,50/60Hz

## ◇ Biological Homogenizer LM50(R)

Biological Homogenizer LM50 is specially designed for homogenizing biological samples with high speed, efficiency and throughput. By strong centrifugal and friction force, the original DNA, RNA and protein of samples can be released completely which is convenient for subsequent extraction and purification. With different adapters, it could process max 24 samples at one batch rapidly by normal centrifuge tubes or cryogenic tubes. With related auxiliary reagents, diverse of samples (incl. soil, plants and animal tissues/organs, germ, yeast, fungus, spore, palaelodids specimen etc.) cell disruption can be achieved.

LM50R is a version of Biological Homogenizer adopts compressor refrigeration;

High efficiency of refrigeration, precise temperature control ensure the liveness of biological samples. Temperature control ranged from -10°C to 40°C.

### ○ Working principle

Through shearing and abrading between grinding balls and samples under 3D high speed motion, and combined with auxiliary reagent (for cell wall/membrane lysis meanwhile protecting nucleic acid protein) to achieve aimed DNA, RNA and protein.



### ○ Performance advantages

- 7inch colorful touch screen, easy operation;
- 3D vibratory pulverizing and centrifugal separation integrated, saving operation time and environment pollution avoided;
- Low speed crushing ensures the yield of DNA/RNA;
- Suited for both centrifuge tube and cryogenic vials in size of 2ml/5ml;
- Different SOPs could be stored (such as crushing time, cycles, temperature, centrifugal time, rotate speed, stop interval time etc.) for various application.



LM50 ( R )

### ○ Technical Data

Process capacity	24x2ml /12x5ml
Vibration linear speed	2.0-6.5m/s
Centrifugal speed	Max. 1000-6000rpm
3D rotate speed	Max. 1000-4000rpm
Storable SOPs	99 SOPs
Cycling times	1-99 times
Max single grinding time	99mins59s
Drive power	500W

## ◇ Knife Mill Auto-HM600

Knife Mill Auto-HM600 is an ideal mill specially designed for foods samples grinding and homogenizing. HM600 increases grinding efficiency and reducing artificial error which guarantees grinding accuracy. It pulverizes samples into analytic fineness in a few seconds with high level of homogenization. Due to the whole grinding and knives cleaning process are performed automatically, it improves sample pretreatment efficiency and could meet various professional requests of laboratory analysis.



### ○ Application

HM600 is not only ideal for soft, mid-hard, brittle and fibrous samples fine crushing but also suited for milling and homogenizing of watery, oily, fatty, fibrous samples. It could process large amount of samples such as cereals, fruit, vegetable, livestock, aquatic product, feeds, meat, sausages, fish, haslet, herbs etc.



### ○ Working principle

HM600 equipped with 2 double-blades knives. The knives placed in the bottom center of grinding jar are driven separately by two 750W motors. There are 6 sample stations and two samples can be processed at one time. Knives rise and fall automatically to ensure quick grinding and homogenizing. Ultrasonic and solvent cleaning, blow drying to ensure the knife clean after test. Choosing dull side to do pre-grinding for big scale of samples or blade side to do fine-grinding.



## ◇ Knife Mill Auto-HM600

### ○ Features and advantages

- 10 SOPs can be stored;
- Dual motors, powerful and speed adjustable;
- One-stop to do pre and fine grinding;
- Easy operation, quick start;
- Stainless steel and PC material grinding containers optional;
- Accessories can be high temperature sterilized;
- Heavy metal contamination free accessories optional;
- Interval, forward and reverse modes can be easily set on control panel.



### ○ Technical Data

Auto-HM600	
Channel qty.	2
Handling capacity	6 samples/batch, 24 samples/hr
Grinding jar capacity	1000ml
Notify message	showing working process and rest time by steps, notify error info.
Cleaning modes	hot water+ detergent + ultrasonic + drying
Grinding pattern	knife moving up and down when grinding to enforce grinding performance
Protection function	The ultrasonic cleaning will not be motivated and warning when there is no water inside
Display screen	LED screen, detachable and can used for remote operation by APP
Control system	microcomputer controls whole process of samples grinding and knives cleaning
Peristaltic pump	external peristaltic pump head with qualified pump pipe
Cleaning pool	2 independent pools
Cleaning target accessories	knife, knife carrier, press lid cleaning simultaneously
Press lid	When grinding the lid will press down to reduce sample residue on jar wall
Motor power	750W per motor, dual motors
Quick launch button	1 or 2 tunnels working patterns;sample quantity,knife auto-cleaning modes,cycle times,tunnels cleaning can be chosen with one click.

## ◇ Jaw Crusher JC7

JC7 jaw crusher is a heavy jaw crusher with high crushing ratio and large handling capacity. It is one of the fastest fine jaw crushers on the market. It can effectively deal with drilling core and block ore with 110mm particle size, and 95% sample can be ground to as fine as 2mm at the speed of 18-20s/kg..



JC7

### ● Applications

- **Mining and metallurgical industries:** niobium and titanium alloy, vanadium iron, chrome vanadium, tungsten carbide, ore, coal, slag, coke
- **Chemical products:** wide variety of chemical industry raw materials
- **Geological and mineralogical:** rock, granite, basalt, barite, silicate
- **Ceramic industry:** talc, sintered clay, sintering ceramic, electric ceramic
- **Building materials:** bauxite, slag brick, quartz, cement



### ● Features and advantages

- Overload protection;
- 7.5kw motor improves the crushing efficiency;
- Powerful connecting rod and bearing;
- All rotating parts are connected by rolling bearings;
- Innovative fastening structure of jaw plate;
- Automatic lubrication system and stability flywheel;
- Innovative design of jaw plates guarantee more effective crushing result;
- Handling speed can reach 4s/kg when the gap width is 6mm;
- 40-50% samples can be as fine as 600  $\mu$ m when the gap width is 1.2mm;
- Jaw plate has been thickened to 48mm, with heavy- metal-free material for choice.

### ○ Technical Data

Feeding size	< 110mm	Collection box volume	8L
Final fineness	95% < 2mm	Drive power	7.5KW
Gap width	0-10mm adjustable	Power supply	380V, 50Hz
Handling capacity	180kg/hr(depends on sample )	Instrument dimension ( L*D*H mm )	935*600*1087mm
Speed	740rpm	Net weight	920kg

## ◇ Air Jet Sieving Machine AJ200

Air Jet Sieving Machine AJ200 is one of the best solution to separate and deagglomerate particles. Equipped with special designed nozzle by adjustable rotate speed, it ensures reproducible sieving result.



AJ200

### ○ Working principle

When AJ200 connected with vacuum cleaner, strong air flow generated by negative pressure sprays on the sample particles on sieve mesh through the nozzle (placed beneath sieve). Vacuum cleaner or cyclone sucks the sample particles smaller than mesh size through the air flow. The air flow contributes to deagglomeration and purifying of sieve mesh.

### ○ Features and advantages

- Air jetting tech. reducing agglomeration;
- Special designed nozzle ensure sieving result repeatable;
- Fitted with standard sieves in dia. of 203mm(8") or 200mm ( fit with adapter);
- Manual operated(standard) or automatic pressure control;
- All parameters adjustable(time, vacuum, speed);
- 9 SOPs can be stored.

### ○ Typical samples

Pharmaceutical material, chemicals, plastic, rubber, detergent, minerals, pigment, toner, ceramics, food



### ○ Technical Data

Measuring range	5 $\mu$ m to 5mm	Applied to dry sieving	Yes
Sieving motion	by air jetting	RS232 interface	Yes
Max. loading	0.3g-100g	Analysis sieves dia.	203mm/200mm(with adapter)
Max. number of fractions	1 (2 with cyclone)	Vacuum cleaner	20 - 99 mbar / 0.3 - 1.45 psi
Speed	digital controlled, 5-55 min <sup>-1</sup> (nozzle)	Storable SOPs	9 or QUCIK START mode
Time display	00:01 - 99:59 min	Rated power	220V, 50Hz



## ◇ Automatic Pellet Press BP40

Stable and qualified tablet is important precondition to XRF analysis. Pellet press instrument is widely applied to NIR and ICP analysis pretreatment as well. Automatic pellet press BP40 provides strong tablets with smooth surface. Pressure can be adjusted and different size of steel rings are optional according to application.



### ○ Application samples

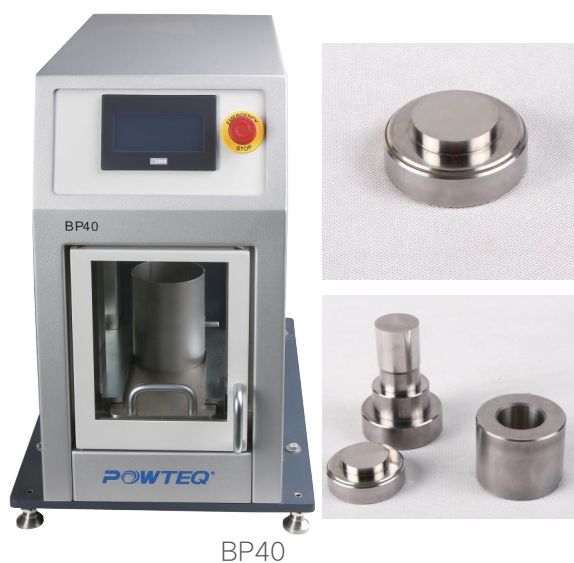
Minerals, cements, residuals, glass, ceramics

### ○ Working principle

Fill the fine powder samples after grinding into the specified stainless steel ring. Moving the ring with samples to the beneath of press plunger and pressing is started. During pressure build-up the density of the powder increases. The max. pressure maintained for a period of time to increase interparticle adhesive force to ensure the max. stability of the tablet.

### ○ Features and advantages

- Touchscreen display.
- Easy and safe operation.
- 10 SOP available.
- Extremely hard samples can be pressed.
- Max. press 400kN(40ton).
- Benchtop size, saving space.
- Digital display, one click control operation, including pressure, pressing time and releasing time setting etc.
- Applied to different sized pellet, 32mm, 35mm inner dia. and 40mm, 51.5mm outer dia. stainless steel rings available.



BP40