

POWTEQ®



Multi-functional Cutting Mill CM100M

◇ Multi-functional Cutting Mill CM100M

Multi-functional 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.



CM100M





○ Applications

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.

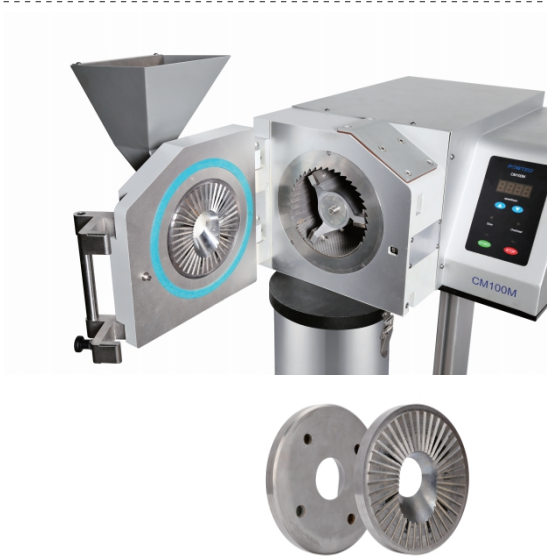
Application Examples

Before grinding	After grinding	Parameter	
		Sample	bone
		Speed setting	1800rpm
		Sample characteristic	mid-hard
		Remarks	feed size
		Time	1 min
		Sample	turmeric
		Speed setting	2000rpm
		Sample characteristic	mid-hard
		Remarks	feed size
		Time	2 min

○ Working Principle

M1-cutting type

The sample passes through the hopper into the grinding chamber and is cut by the shearing action between a rotor and a fixed cutting bar. When the sample size is smaller than the aperture on the sieve plate, the sample falls into the collecting bucket.

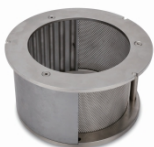


M2 -cross beater type

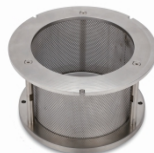
M2 type grinds the samples through beating, impacting. The sample enters the center of the chamber through the hopper. The sample is crushed between the impact plate and the gear of the embedded parts. Once the sample size is smaller than the pore size of the sieve, they will enter into the receiving container. The beater rotor draws a large amount of air through the hopper channel, thus accelerate the speed of the crushed sample departing from the crushing chamber.

M3- rotor beater type

The sample enters the center of the chamber directly through the hopper. The sample is crushed between the rotor, embedded parts and sieve. Once the sample size is smaller than the pore size of the sieve, they will enter into the receiving container. The quick locking design of the mill door ensures the convenient and fast access to the crushing cavity, and also ensures the convenience of cleaning.



180° bottom sieves:
suitable for soft, medium
hard shell grain samples



360° bottom sieves:
suitable for soft and brittle
grain samples

○ Techniques for achieving optimum grinding results

- For samples such as rubber and plastic, better results can be achieved by freezing or adding auxiliary materials.
- For fine grinding requirements, the large aperture bottom sieve shall be used for pre pulverization and then the small aperture bottom sieve for fine grinding.
- For flexible and heat-sensitive samples, the speed of less than 1000rpm while for the medium hard and soft samples, the speed above 1000rpm is preferred.

○ Features and advantages

- 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
- Through three different grinding accessories to achieve different functions, which is suitable for wider range of samples.
- 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.



● Connect cyclone separator, small volume sample receiver

When the CM series is used with the cyclone separator, it is suitable for handling light or small volume samples. The use of cyclone separator extends the applications of the Cutting Mills. It not only effectively solves the heat transfer problem during the grinding process so as to make cleaning easily, but also improve the uniformity and reproducibility of the grinding results.



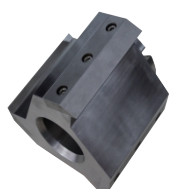
○ Rotor

RotorA: standard rotor, for Cutting mill CM100M1, mainly used for crushing hard and fibrous samples (such as straw).

RotorB: 6-disc rotor, for Cutting mill CM100M1, mainly used for crushing medium hard, flexible and light samples (such as plastic, rubber, circuit board).

RotorC: for Cross Beater Mill CM100M2, mainly used for crushing soil, coal, slag, glass, etc

RotorD: for Rotor Beater Mill CM100M3, mainly used for crushing grain, for example :wheat, corn, soybean.



A



B



C



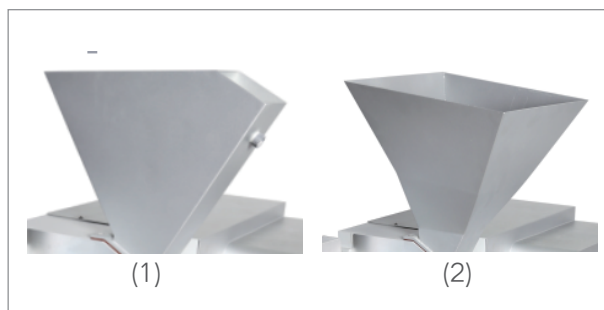
D

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

Hopper for M1

Two kinds of feed hopper, 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.

The feed hopper and the shell of the instrument are made of hard steel, which is ergonomically designed and easy to operate.



○ Technical Data

Feed size	M1:≤60×80mm;M2:≤25mm;M3:≤25mm	Grinding chamber material	stainless steel, 1.1740 steel, hardened steel
Final fineness	0.1-20mm	Rated power	1.5KW
Speed	500-4000rpm	Power supply	220V, 50/60Hz
Collector capacity	0.25-30L	Instrument size	630*705*1412mm (M1)
Collector	0.25L、0.5L、1L、3L、5L、30L		590*705*1260mm (M2/M3)
Peripheral speed	M1:3.4-20.1m/s, M2:3.6-28.9m/s, M3:3.5-28.5m/s	Package size	1000*1000*1450mm
Sieves	0.20/0.25/0.50/1.00/2.00/4.0/6.0/8.0/10.0/20.0mm	Net weight	120kg