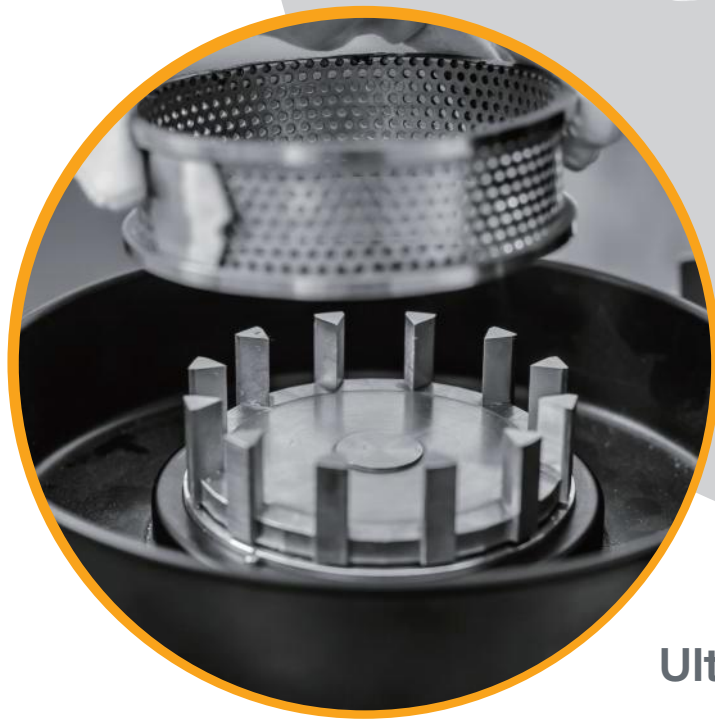


POWTEQ®



Ultra Centrifugal Mill FM300

◇ Ultra Centrifugal Mill FM300

Ultra Centrifugal Mill FM300 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.



FM300

○ **Sample type :**

Soft, elastic, fibrous, water-bearing, oily, fatty, dry sample

○ **Application fields :**

Agriculture, environment, soil, electronics, RoHS testing, coal, chemistry, plastics, medicine, feed, grain, dry plants, etc.

Application Examples

Before grinding	After grinding	Parameter	
		Sample	plastics
		Rotor	12 teeth rotor ,stainless steel
		Sample characteristic	tough
		Remarks	the sample need to be freezed before grinding
		Time	the sample can be collected immediately after feeding
		Sample	corn
		Rotor	12 teeth rotor ,stainless steel
		Sample characteristic	hard
		Remarks	feed size must be less than 8mm
		Time	the sample can be collected immediately after feeding
		Sample	dog food
		Rotor	12 teeth rotor ,stainless steel
		Sample characteristic	oily
		Remarks	feed size must be less than 8mm
		Time	the sample can be collected immediately after feeding

○ Diversified application, efficient sample preparation

- Ecological environment protection: plants (root, stem and leaf, etc.) sample preparation, C.H.N determination
- Coal, coatings sample preparation; ash content, thermal measurement
- Identify the nitrogen composition and protein composition of feed and food
- Secondary fuel, rubbish, plastic, electronic elements, the determination of harmful substances

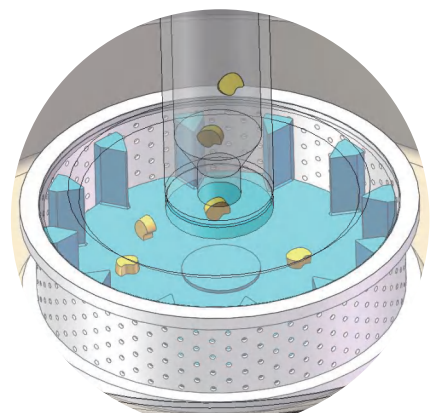
○ The grinding art for special samples

- Plastic and rubber samples will become brittle and easy to grind in liquid nitrogen condition.
- The distance ring sieve and automatic vibratory feeder can be used for grinding heat-sensitive samples such as paint, resin.
- The rotor and ring sieve with wear-resisting coatings can be used for grinding rigid and corrosive materials such as fertilizers, chemicals.



○ Working principle

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.



◇ Automatic feed device and large sample receiver

- Ultra Centrifugal Mill FM300 can be equipped with an automatic feed device, which can guarantee highly homogeneous grinding results and avoid the risk of sample feed overload.
- The ground samples are collected in a collecting pan, which is convenient for collection without sample loss and prevents cross contamination of samples.
- When using a cyclone or a filter bag, the ground samples can be cooled via airflow and leave the grinding chamber quickly via the collecting pan with an exit. If a vacuum cleaner is connected, the process can be faster and more efficient. The cyclone can be used in conjunction with 250ml or 500ml sample bottles; for large volume samples, the cyclone with the capacity of 3L or 5L can be selected. All parts contacting samples can be removed manually without any tools, and it is quite convenient to clean and install such parts.

○ Features and advantages

- Final fineness less than 40 μ m.
- 20 SOPs can be stored.
- Touch control panel, convenient and easy to operate.
- Low noise, reliable operation, easy cleaning.
- Rich accessories for option enable various application.
- Speed adjustable from 6000-23000rpm.
- Different fineness can be realized by selection of ring sieves with different aperture size.
- Rotor-ring sieve two stage grinding system ensures reliable grinding result.
- Rotor diameter 98.5mm and peripheral speed up to 119 m/s ensure efficient grinding.



○ Technical highlights

- The specially designed air passage can guarantee that the grinding chamber has constant airflow to cool rotors and samples.
- Real display of temperature in grinding chamber on control screen.
- There is a double layer wear proof seal ring between the grinding chamber and the driving motor to prevent dust from entering the motor.
- The electronic lock and the mechanical lock form double protection for operators.
- The anti-splashing hopper can effectively prevent feedstock blocking and reduce noises.
- Special adapters can be equipped for large-capacity collections.
- The motor has the function of overload protection, and it continues to run after restarting due to overload.

○ 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.

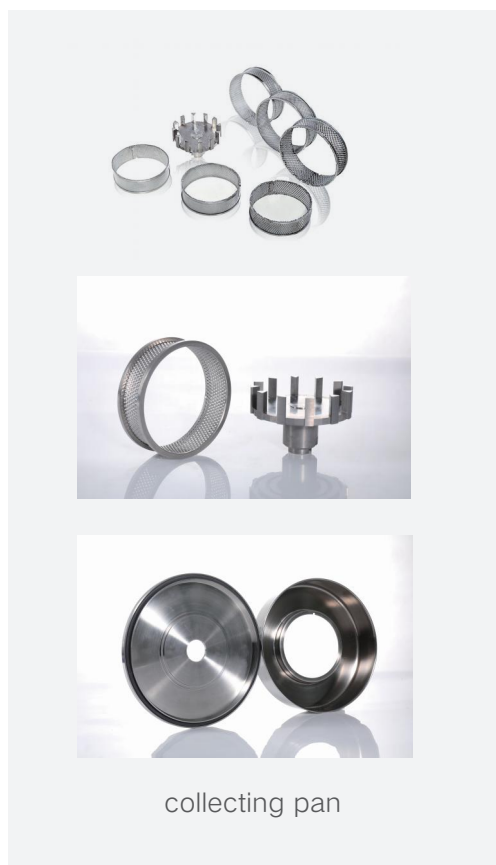
Ring sieves

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

○ 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 rotor and the ring sieve are chosen according to the properties of the samples, the required final fineness and subsequent analysis.

○ We offer a special ring sieve with shear function, for most materials, about 80% of the samples can reach the fineness of less than the half aperture size of the sieve used.



○ Technical data

FM300			
Feed size	< 10mm	Rated power	1300W
Final fineness	< 40 μm	Power supply	220V, 50/60Hz
Speed	6000-23000rpm	Instrument size	500*400*470mm
Peripheral speed	31-119m/s	Package size	590*590*630mm
Rotor diameter	98.5mm	Net weight	38kg
Ring sieve	0.08、0.12、0.20、0.25、0.50、0.75、1.00、2.00mm		
Collecting pan/bottle volume	pan: 900/1200ml; bottle or bucket: 250ml, 500ml, 1L, 3L, 5L		