



MICRO BALL MILL GT300

Micro Ball Mill GT300 is designed for advanced laboratory use. It efficiently handles both small and large sample batches, including plant material, animal tissue, and limited sample quantities in dry, wet, or cryogenic conditions. With the ability to mix and homogenize powders and suspensions in seconds, it is also ideal for breaking down biological cells and extracting DNA, RNA, and proteins.

APPLICATIONS

- **Sample type:** Hard, soft, elastic and fibrous samples
- **Typical sample:** 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.

Micro Ball Mill GT300

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Application Examples

Before grinding	After grinding	Parameter
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Application of Micro Ball Mill GT300	Application of Micro Ball Mill GT300	Sample	Leaf
		Grinding balls	5mm, stainless steel
		Reaction vials	2ml
		Sample Characteristic	Soft, brittle
		Time	1 min
Application of Micro Ball Mill GT300	Application of Micro Ball Mill GT300	Sample	Glass silk
		Grinding balls	20mm, stainless steel
		Grinding jar	35ml, stainless steel
		Sample Characteristic	Brittle
		Time	5 min

Grinding, Mixing, and Cell Disruption

The Micro Ball Mill GT300 is designed for advanced laboratory applications. It processes up to two samples or large batches simultaneously in just 30 seconds, accommodating volumes from 0.2 ml to 50 ml. It is ideal for high-throughput grinding.

Working Principle

The Micro Ball Mill GT300 grinds up to 2 × 96 samples quickly and efficiently within 1–3 minutes. The grinding jars oscillate horizontally at high frequency, generating strong inertia that drives the grinding balls to impact the sample with high energy. This motion ensures thorough grinding and mixing of the material.

Wide range of Accessories

Accessories of Micro Ball Mill GT300

Reaction Vial Adapters

- Designed for reaction vials.
- Prevents cross-contamination between samples, ensuring high-throughput processing.
- Adapters can be placed directly into liquid nitrogen for cryogenic applications.

Accessories of Micro Ball Mill GT300

Versatile Grinding Jar Compatibility

- Supports various material types with grinding jars up to 50 ml.
- Suitable for processing soil, minerals, plants, dental materials, and more.

Accessories of Micro Ball Mill GT300

Pesticide Residue Sample Detection

- Ideal for detecting pesticide residues.
- 50 ml reaction vials with adapters can process up to 8 samples simultaneously.
- Complies with QuEChERS requirements.

Accessories of Micro Ball Mill GT300

Durable Clamping Device

- Specially designed cast stainless steel clamping device for strength, durability, and user comfort.
- Integrated mobile positioning catch enhances the lifespan of grinding parts and the clamping mechanism.

Control Panel

1. Advanced touch-screen interface for easy program control and grinding parameter adjustments.
2. Grinding time can be set from **1 second to 99 minutes and 59 seconds**, fully digital and adjustable.
3. Vibrational frequency can be set between **180 to 1800 rpm**, digitally controlled and adjustable.

Cryo Kit for Jar (or Adapter) Cooling with Liquid Nitrogen

1. Includes an **insulated heat preservation box, jar clamping device, and eye protection gear**.
2. Recommended for heat-sensitive materials like plastics and rubber—pre-freezing samples and grinding jars with liquid nitrogen enhances processing.
3. Suitable jars for cryogenic grinding are made from **Teflon or stainless steel**.

Bead Dispensers

1. Designed for **96-hole deep well plates**.
2. Available in **3mm and 5mm bead sizes**.

Bead Dispensers

Bead Dispensers

Various range of reaction vials for freezing and grinding

A variety of reaction vials are available for cryogenic grinding, including plastic, PC, PTFE, and stainless steel. These vials, paired with stainless steel, zirconium oxide, or tungsten carbide balls, are ideal for processing small-volume samples.

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Adapter for reaction vials of biological cell disruption

The GT300 adapter enables high-throughput, efficient, and safe disruption of multiple biological samples, including spores, microorganisms, plant and animal tissue, and soil. Simply place the samples, extraction solution, and metal or ceramic balls into disposable reaction vials. In just two minutes, over 95% of cells can be effectively disrupted. This method is ideal for sample preparation in PCR, PAGE, and probe applications, where preventing cross-contamination is critical. Available options include adapters with 5, 10, or 24 holes for 1.5/2.0ml reaction vials, 6-hole adapters for 5ml vials, and 96-hole adapters for 1.2ml deep-well plates.

Fast clamping jars

1. Dry grinding
2. Wet grinding

3. Ultra-fine grinding
4. Mechanical alloy grinding
5. Freezing grinding

Micro Ball Mill GT300

FEATURES

Features and Advantages

1. Suitable for dry, wet, and cryogenic grinding.
2. Ultra-fast processing time.
3. Designed for high-throughput applications, supporting up to 192 sample preparations.
4. Wide selection of grinding jars and accessories for diverse applications.
5. Digitally pre-settable working parameters for consistent, repeatable results.
6. Transparent lid for real-time monitoring of the grinding process.
7. Built-in safety lock stops the motor if the lid is opened during operation, ensuring user safety.
8. Programmable settings for operation time, interval grinding, and program storage.
9. Stores up to 20 standard operating procedures (SOPs).

Easy Operation and High Safety Performance

The integrated motor brake ensures the machine operates only when the lid is securely closed. The unique "Easy Clamp" system allows for quick and safe clamping of grinding jars up to 50 ml.

The grinding chamber, Easy Clamp system, and swinging arm are made from high-precision stainless steel, meeting strict food and pharmaceutical standards. Additionally, the advanced brushless motor design minimizes maintenance, making the GT300 highly convenient to use.

TECHNICAL SPECIFICATIONS

Feed size	< 10mm
Final fineness	< 5μm
Speed	180-1800rpm
Sample volume	0.2-20ml
Time setting	00:01 ~ 99:59 (min/s)
Rated power	150W
Voltage	220V, 50/60Hz (110V is also available)
Instrument size (W*D*H)	370*505*335mm
Package size (W*D*H)	700*500*560mm
Net weight	34kg

Recommended quantity of grinding balls

Grinding Jar's volume	Max. feed size	2mm	3mm	20mm	25mm	30mm
2.00ml	1mm	3-4pcs	2-3pcs			
25.00ml	6mm	To achieve better grinding result, please choose bigger ball when bigger jar used			1pcs	1pcs

50.00ml	8mm	1pcs	1pcs	1pcs
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