



# Laboratory Tissue Grinder



## STANDARDS

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IEC 61010-1

IEC 61326-1

## Laboratory Tissue Grinder - QualiGrind™ Lab

A Tissue Grinder in the QualiGrind™ Lab Series is a laboratory bead-beating system designed to disrupt and homogenize samples quickly for DNA, RNA, and protein workflows. It processes sealed tubes using high-frequency motion and grinding beads to break tissues and cells into a uniform homogenate, helping improve extraction consistency across batches.

QualiGrind™ Lab Series is positioned for labs that need reliable, repeatable grinding with flexible tube and plate adapters. Programmable run settings and standardized bead options help reduce operator-to-operator variability during daily sample prep.

## APPLICATIONS

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### Laboratory Tissue Grinder - QualiGrind™ Lab Applications

- Plant and animal tissues and organs
  - Grinding supports fast homogenization of tissues and organs prior to extraction and purification. It helps create consistent lysates when sample variability is high across lots or collection sites.
- Microorganisms
  - Processing bacteria, yeast, fungi, spores, and similar samples is supported using appropriate bead material and run settings. This is useful when tougher cell walls require mechanical disruption to improve yield and

repeatability.

- Soil and complex environmental matrices
  - A bead-based Tissue Grinder helps break down soil-like matrices for downstream purification and analysis. Sealed processing reduces handling steps and helps keep workflows cleaner during high-sample-volume prep.
- High-volume lab workflows
  - Multi-adapter capacity supports batch processing when turnaround time matters. This fits diagnostic, research, and screening labs that run many similar samples per day.



## Standards

- IEC 61010-1: Safety requirements for electrical equipment for measurement, control, and laboratory use.
- IEC 61326-1: EMC requirements (immunity and emissions) for laboratory and measurement equipment.

## FEATURES

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### Laboratory Tissue Grinder - QualiGrind™ Lab Key Features

- Lab-focused throughput with adapter options that support tubes and plate-style workflows for batch processing.
- Programmable speed and time settings to standardize grinding conditions across operators and shifts.
- Wet, dry, and pre-freeze grinding modes to match different sample behaviors and workflow goals.
- Multiple bead material choices including stainless steel and zirconia options to match hardness and contamination concerns.
- Digital display control designed for straightforward daily operation in routine sample prep environments.

## THEORY & METHOD

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### Theory and Method

QualiGrind™ Lab Series uses mechanical energy generated by controlled motion to drive bead-to-sample impacts inside sealed tubes or plate wells. The beads apply repeated shear and collision forces that disrupt tissue structure and break cells, producing a more uniform homogenate for extraction steps.

A typical method selects the adapter format and bead type, then sets speed and run time based on sample toughness and heat sensitivity. Pre-freeze grinding can be used for temperature-sensitive samples to improve brittleness and reduce thermal rise during processing.

## TECHNICAL SPECIFICATIONS

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### Laboratory Tissue Grinder - QualiGrind™ Lab Technical Specification

Parameter	Specification
Model	QualiGrind™ Lab
Rated power	375 W
Time setting	1-3599 s (customizable)
Speed / Frequency	270-2000 rpm (5-33 Hz)
Stroke	30 mm (vertical)
Fixture / adapter format	Standard: 1 mL-2 mL, 2×48 holes (96 positions)
Sample capacity (optional)	0.2-0.5 mL, 2×96 holes; 5 mL, 2×24 holes; 10/15/25/50/100 mL grinding jars; cryogenic adapter
Grinding method	Wet grinding, dry grinding, pre-freeze grinding
Grinding beads	Standard: Ø3 mm stainless steel balls (1000 pcs); Optional: Ø6 mm stainless steel balls (1000 pcs) or zirconium oxide balls
Display mode	Button digital display
Overall dimensions (L×W×H)	514 × 318 × 252 mm



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E-mail: [info@qualitest-inc.com](mailto:info@qualitest-inc.com)  
Address: 8201 Peters Rd., #1000,  
Plantation, FL 33324, USA.

### Qualitest Canada & International

Tel: +1.905.944.9825 | Fax: +1.905.944.0304  
E-mail: [sales@qualitest-inc.com](mailto:sales@qualitest-inc.com)  
Address: 70 East Beaver Creek Rd., #9, Richmond Hill,  
Ontario L4B 3B2, Canada.

### Qualitest Latin America (Mexico and LATAM Region)

E-mail: [ventas@qualitest-inc.com](mailto:ventas@qualitest-inc.com)

### Qualitest KSA (Regional Office)

Tel: +966 11 500 6659  
Address: Level 7, 3.09, District 3, King Abdullah  
Financial District, Riyadh, Saudi Arabia

### Qualitest Singapore (ASIA PACIFIC Regional Office)

Tel: +65 6393 5480 | E-mail: [singapore@qualitest-inc.com](mailto:singapore@qualitest-inc.com)  
Address: 50 Raffles Place, Singapore Land Tower,  
Level 46, Singapore, 048623.

### Qualitest Indonesia (Representative Office)

Tel: +62 21 2985 9522 | Fax: +62 21 2985 9889  
E-mail: [indonesia@qualitest-inc.com](mailto:indonesia@qualitest-inc.com)  
Address: One Pacific Place Level 11, Jl. Jend. Sudirman,  
Kav. 52-53, SCBD Area, Jakarta 12190, Indonesia.

### Qualitest FZE (Regional GCC/ME Office)

Tel: +971 4 8819252 | Fax: +971 4 8819262  
Email: [gcc@qualitest-inc.com](mailto:gcc@qualitest-inc.com)  
Address: Jafza One, BB 1610, Jebel Ali Free Zone,  
PO Box 261440, Dubai, UAE.

### Qualitest India

E-mail: [india@qualitest-inc.com](mailto:india@qualitest-inc.com)  
Address: 15th Floor, Dev Corpora, Pokhran Road No.1,  
Eastern Express Highway, Thane, Maharashtra,  
Mumbai, 400601, India

