



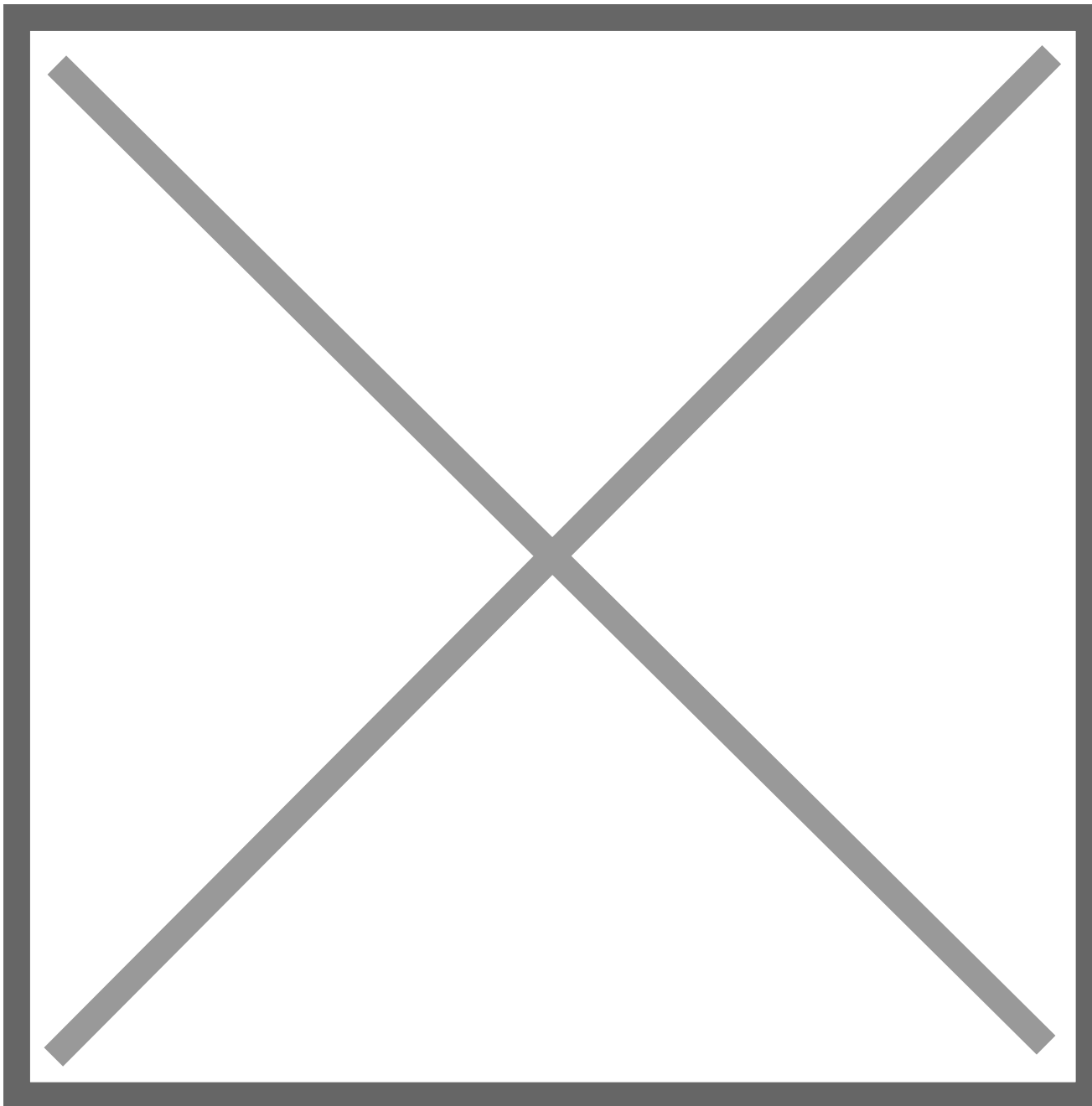
# BIOLOGICAL HOMOGENIZER LM50(R)

- Process capacity: 24x2ml / 12x5ml
- Vibration linear speed: 2.0-6.5m/s

The Biological Homogenizer LM50(R) is purpose-built to efficiently homogenize biological samples at high speed and throughput. It uses strong centrifugal and friction forces to completely release the original DNA, RNA, and proteins from samples, making it easier for subsequent extraction and purification.

With various adapters, it can rapidly process up to 24 samples in a single batch using standard centrifuge tubes or cryogenic tubes. By employing complementary reagents, this homogenizer can disrupt a wide range of samples, including soil, plants, animal tissues/organs, germs, yeast, fungi, spores, and paleontological specimens.

The LM50R Biological Homogenizer incorporates compressor refrigeration, providing highly efficient cooling and precise temperature control to maintain the vitality of biological samples. Temperature control ranges from 4°C to 37°C, and a customized version with a range of -40°C to 20°C is also available.



## APPLICATIONS

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- **Genomic Research** – Efficiently extracts DNA and RNA from diverse biological materials for sequencing and molecular studies.
- **Proteomics** – Prepares high-quality protein samples for downstream analysis such as electrophoresis and mass spectrometry.
- **Microbiology** – Disrupts microorganisms including germs, yeast, fungi, and spores for rapid nucleic acid recovery.
- **Plant and Agricultural Studies** – Processes leaves, roots, seeds, and soil samples for genetic and biochemical analysis.
- **Animal and Clinical Research** – Homogenizes tissues and organs for diagnostic and biomedical investigations.
- **Cryogenic and Paleontological Samples** – Compatible with frozen and ancient specimens to release genetic material while minimizing degradation.
- **Pharmaceutical and Biotechnology** – Supports drug discovery, biomarker research, and quality control workflows.
- **Academic and Research Laboratories** – Flexible for teaching, training, and high-throughput sample preparation in multi-disciplinary projects.

## FEATURES

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- User-friendly 7-inch colorful touch screen for easy operation.
- Integration of 3D vibratory pulverization and centrifugal separation, resulting in time savings and preventing environmental pollution.
- Low-speed crushing ensures optimal DNA/RNA yield, making it particularly suitable for genome preparation.
- Compatible with both centrifuge tubes and cryogenic vials in sizes of 2ml/5ml.
- Various Standard Operating Procedures (SOPs) can be programmed, including parameters such as crushing time, cycles, temperature, centrifugal time, rotation speed, stop interval time, and more, tailored for different applications.

## THEORY & METHOD

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DNA, RNA, and proteins are precisely targeted by leveraging the shearing and abrasive forces generated during the 3D high-speed motion of the grinding balls interacting with the samples. These forces, coupled with the use of auxiliary reagents that facilitate cell wall/membrane lysis while safeguarding nucleic acids and proteins, enable the desired outcomes in DNA, RNA, and protein extraction.

## TECHNICAL SPECIFICATIONS

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|------------------------|-------------------|
| 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 | 99min59sec |
| Rated power              | 500W       |



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