

A TISSUE GRINDER FOR SURFACE WATER CHLOROPHYLL A ANALYSIS



Application of Standard Method for Chlorophyll Extraction

- Filtration: add magnesium carbonate suspension before filtration to prevent pigment decomposition. The negative pressure should not exceed 50 kPa.
 - Chlorophyll extraction: place the filter membrane in a DHFSTPRP-Ch24 extractor, add 10 mL of 90% acetone solution, and grind at 1500-2000 rpm for 1 minute. The broken filter membrane floats the planktonic algae cells. After grinding, soak and extract at 4°C in the dark for 15 minutes to 24 hours. Finally, centrifuge for clarification: centrifuge at 1000g for 20 minutes or filter, and transfer the supernatant to a stoppered glass vial.
 - Measurement method: spectrophotometry. Use the tricolor equation to determine the absorbance at 664 nm, 647 nm, 630 nm, and 750 nm to calculate the chlorophyll a, b, and c contents. Use the single-color equation to determine the content of demagnesiated chlorophyll a after calibration. DHFSTPRP-Ch24 can simultaneously process 8×10mL centrifuge tubes, etc. for rapid cell disruption, cell lysis, and tissue homogenization. Sample grinding includes plant roots, stems, leaves, flowers, fruits, seeds, and certain animal tissues; it is particularly suitable for the extraction of nucleic acids, proteins, and other components in plant tissues. In addition, it can also crush yeasts, cultured animal cells, bacterial cells, etc. to extract their components.
- The three-dimensional integrated shaking mode makes the sample grinding more uniform and sufficient, with good repeatability of samples and no cross-contamination between samples. It is a true high-throughput grinding and oscillation system. Each sample can be completed in only 1-2 minutes.
- The Eupervs accessory can be selected for low-temperature grinding and preservation of temperature-sensitive samples.

Product | Features

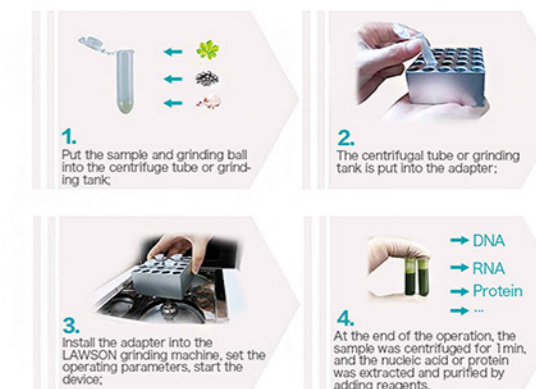
- A specially designed grinder for extracting nucleic acids and protein components from plant samples.
- High throughput: can simultaneously grind 8*10ml samples and is suitable for grinding samples of various sizes, greatly improving work efficiency.
- Each sample can be completed in only 1-2 minutes.
- In order to ensure the reproducibility, effectiveness, and comparability of the samples, the grinder can set the grinding time, grinding rate, and cycle times, to ensure the consistency between each grinding and the next, with a maximum time of 99 minutes.
- Built-in with two safety locks and one sample chamber cover interlock, extremely safe and reliable.
- Customized solutions for grinding samples of animals and plants at room temperature or low temperature.
- The start and stop buttons allow the user to start or stop the grinding process at any time.
- Optional ways low-temperature accessories for low-temperature grinding and storage of temperature-sensitive RNA and protein extraction samples.

Product | Applications

- ◆ Fast grinding preparation for PCR (polymerase chain reaction) of multiple samples.
- ◆ Rapid tissue homogenization for nucleic acid extraction, RNA/DNA extraction, and protein extraction.
- ◆ Lysis of yeast and bacterial cells.
- ◆ Pesticide/Insecticide analysis (sample processing for residual pesticides or toxic substances in food using LC/MS/MS).
- ◆ QuEChERS method (extraction of pesticides, antibiotics, and drugs).
- ◆ Extraction of active pharmaceutical ingredients (APIs).
- ◆ Food safety (contamination, adulteration, food traceability).
- ◆ Grinding and homogenization of biomass for biofuels.

Operation Process

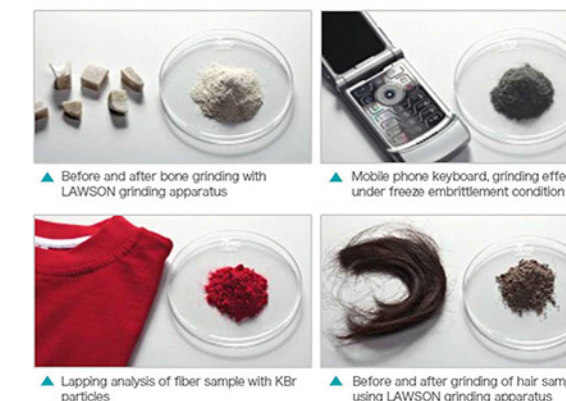
LAWSON: Easy to complete sample processing, as long as **4** steps:



• LAWSON are the corresponding supporting products to choose from.

Grinding Contrast:

The excellent grinding effect of LAWSON grinding instrument



• LAWSON: More samples grinding contrast effect, welcome to contact us.



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Technical I Parameters

Model	DHFSTPRP-Ch24
Application Fields	Organ homogenization, grinding, cell disruption, homogenization, material dispersion, preparation, sample mixing, and oscillation
Processing Capacity	24 samples can be processed simultaneously within 15 seconds, and it can be used with 12- and 24-position liquid nitrogen cryogenic adapters
Compatible Sample Tubes	24*(0.2-0.5mL) /24*2mL /6*(7-15)mL /2*25mL /2*50mL, and various specifications of grinding tubes can be customized
Ten sets of experimental data can be stored	According to different experimental samples, animal heart, spleen, lung, kidney, bone, skin, and hair patterns are set up
Cycle mode	According to the set experimental parameters, it can continuously cycle among several preset parameters, further reducing human interference.
Anti-vibration principle	Innovative anti-vibration principle DHFSTPRP-1, and a special three-dimensional vibration mode of up and down and left and right shaking, the sample moves in 8-shaped three-dimensional space, with innovative grinding ball motion mode to ensure ideal sample processing and instant crushing effect
Maximum feeding size	No requirement, adjustable according to the adapter

Technical Parameters

Final particle size	~5µm
Number of grinding platforms	(can accommodate number of grinding jars) > 2
Fastening device	With automatic centering and positioning
Homogenization speed	0-70 Hz/second, working time: 0 seconds to 99 minutes, user can set it
Grinding ball diameter	0.1-30mm
Grinding ball material	Alloy steel, chromium steel, zirconia, tungsten carbide, quartz sand
Acceleration/Deceleration	Reaches maximum speed within 2 seconds / Reaches lowest speed within 2 seconds
Noise level	<55db
Grinding mode	Wet grinding, dry grinding, and low temperature grinding are all available
Temperature control can be equipped	With the ability to upgrade to ultra-low temperature liquid nitrogen cooling or air cooling
Adapter material	Polytetrafluoroethylene, alloy steel
Safety instructions	With an automatic centering and locking device for safe operation throughout
Grinding kit material	Hard alloy, polytetrafluoroethylene (PTFE), zirconia
Dimensions	630*300*480mm
Dimensions/Weight	630*300*480mm / 58 kg