

RAPID HAIR GRINDING INSTRUMENT

Product I Features

○ Efficient Grinding

Simultaneously process 3 hair samples quickly and efficiently. Provides a feasible and convenient solution for community drug rehabilitation and monitoring of special individuals

○ Compact and Convenient

Compact design, lightweight, and easy to carry.

○ Professional Grinding

instrument has completed nearly a thousand real sample detections at judicial centers and anti-narcotics brigades in Beijing, Ningbo, Sichuan, Hunan, Shanghai, and other places. High positive detection rate of up to 99%, effectively avoiding false-positive interference caused by drug use.



Product I Introduction

DHFSTPRP-HP24 Rapid Hair Grinding Instrument uses a special vertical up-down integrated vibration mode to achieve ideal grinding effects quickly through the high-frequency reciprocating vibration, impact, and shear of grinding beads (zirconia, steel, glass, and ceramic). The rapid grinding ensures that the samples are more fully and uniformly ground, with better sample reproducibility and no cross-contamination between samples. When combined with colloidal gold detection technology, the instrument can perform rapid on-site detection of common drugs in hair (such as heroin, methamphetamine, ketamine, ecstasy, and cannabis). The detection limits for various drugs have all met the requirements of the "Drug-Related Personnel Hair Sample Testing Specification" issued by the Ministry of Public Security. Since its introduction, the product has been widely recognized in the industry. The hair on-site testing instrument has the advantages of simple sample processing, convenient carrying, efficient detection, accurate results, and high sensitivity. It is currently very suitable for law enforcement personnel in public security and anti-drug units to use for on-site hair drug testing equipment.



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Product I Applications

Sample for Grinding:

- Plant Tissues: roots, stems, leaves, flowers, fruits, seeds, etc.
- Animal Tissues: brain, heart, lung, stomach, liver, thymus, kidney, intestine, lymph nodes, muscle, bones, etc.
- Fungi and Bacteria: yeast, E. coli, etc.
- Food and Medicine: various food, pills, etc.
- Volatile Samples: coal, oil shale, wax products, etc.
- Plastics and Polymers: PE, PS, textiles, resins, etc.

○ Nucleic Acid/Protein Extraction

Low-temperature grinding of samples can effectively inhibit nucleic acid degradation and preserve protein activity.

○ Analysis of Active Pharmaceutical Ingredients

There are often significant differences between isomers of drug active ingredients. Low-temperature grinding can prevent molecular degradation due to pressure and heat.

○ Reducing Sample Volatility

Low-temperature grinding can significantly reduce sample volatility and more completely retain the content of sample components.

○ Grinding Tough/Hard Samples

For hard-to-grind samples such as tough plastics, high-strength plastics, and resins, low-temperature grinding can greatly improve grinding efficiency and effectiveness.

Operation Process

LAWSON can help you easily complete the hair inspection in only **4** steps :

- When extracting hair samples, disposable gloves should be worn, and scissors should be used to clip to the scalp surface of the extracted person to cut hair with a length of less than 5 cm at the top and back. Hair longer than 3 cm should be cut from the root of the hair.
- After putting the extracted hair into the kil, put the reagent bottle into the grinder.
- Adjust the instrument to the best state, and grind the hair according to the set instrument parameters. Take out the hair sample after the instrument stops working.
- Suck the ground hair solution with a test tube, drop 3-5 drops into the hair detection plate, and observe the changes of the detection plate.

If two lines of C/T appear at the same time, the sample is negative. Only line C appears, and the test sample is positive. The product can process 12 samples at one time, and the whole process does not exceed 10mins.

* LAWSON hair detection scheme is for reference only. Please contact us for more details.

Grinding Contrast:

The excellent grinding effect of LAWSON grinding instrument

<p>▲ Before and after bone grinding with LAWSON grinding apparatus</p>	<p>▲ Mobile phone keyboard, grinding effect under freeze embrittlement condition</p>
<p>▲ Lapping analysis of fiber sample with KBr particles</p>	<p>▲ Before and after grinding of hair samples using LAWSON grinding apparatus</p>

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



**RAPID HAIR
GRINDING INSTRUMENT**

Technical I Parameters

Model	DHFSTPRP-HP24
Application Fields	Hair grinding, tissue grinding, homogenization, cell disruption, emulsification, material dispersion, preparation, sample mixing, and oscillation
Processing Capacity	Maximum processing capacity of 24 samples at the same time within 15 seconds, including 12-well and 24-well liquid nitrogen cooling 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
Display mode	LCD screen display, touch screen display (upgradeable)
Anti-vibration principle	Innovative anti-vibration principle of Schleifen-1 from Germany and a three-dimensional motion of up and down, left and right shaking - innovative grinding ball motion mode to ensure maximum sample processing and instantaneous crushing effect
Maximum feeding size	No requirement, adjustable according to the adapter
Final particle size	~5µm
grinder platforms	(Acceptable number of grinding jars) >2
Fastening device	With automatic centering

Technical I Parameters

Homogenization speed	0~70 Hz/second, working time: 0 seconds~99 minutes, user can set it by themselves
Grinding ball diameter	0.02~30mm
Grinding ball material	Alloy steel, chrome steel, zirconia, tungsten carbide, quartz sand
Acceleration	Reaches maximum speed within 2 seconds
Deceleration	Reaches minimum speed within 2 seconds
Noise level	<55db
Grinding mode	Wet grinding, dry grinding, and cryogenic grinding are all possible
Temperature control can be additionally equipped with	The ability to upgrade to ultra-low temperature liquid nitrogen cooling or air cooling
Adapter material	Polytetrafluoroethylene (PTFE), alloy steel
Safety instructions	With an automatic centering locking device and safety lock during operation, full protection throughout
Grinding kit material	Hardened steel, polytetrafluoroethylene (PTFE), zirconia
Dimensions	41*34*55cm
Weight	28 Kg