High Purity Graphite Acid Digestion System Customizable Aluminum Alloy Heating Block For Trace Analysis Sample Preparation

Item Number: PL-CP404

Introduction

Optimize sample preparation with this customizable graphite acid digestion system. Engineered for superior thermal uniformity and corrosion resistance, it supports multi-well configurations for precise trace analysis and high-throughput laboratory workflows in demanding industrial environments and research facilities.

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Application	Description	Key Benefit
Environmental Soil Analysis	Digesting soil and sediment samples for heavy metal detection using EPA 3050B or similar methods.	Ensures total recovery of trace elements without volatile loss.
Pharmaceutical Purity Testing	Preparation of active pharmaceutical ingredients (APIs) for trace catalyst and impurity analysis.	Minimizes contamination risks to meet stringent FDA/EMA standards.
Geochemical Exploration	Large-scale digestion of mineral ores and rock samples for precious metal assaying.	High-throughput capacity accelerates exploration and mining workflows.
Semiconductor Grade Chemicals	High-purity acid digestion of silicon wafers and electronic-grade precursors for ultratrace analysis.	Maintains the extreme purity levels required for sub-ppb detection limits.
Food Safety & Compliance	Monitoring of toxic metals (Pb, Cd, Hg, As) in food products and agricultural exports.	Delivers uniform heating for consistent results across large batch samples.
Wastewater Monitoring	Digestion of industrial effluents to monitor compliance with environmental discharge regulations.	Robust construction withstands continuous exposure to aggressive reagents.
Metallurgical Quality Control	Acid dissolution of steel, alloys, and refractory materials for elemental composition verification.	Precision temperature control enables accurate decomposition of tough matrices.
Petrochemical Analysis	Decomposition of crude oil and petroleum derivatives for sulfur and metal content analysis.	Provides the thermal stability needed for high-temperature organic digestion.

Feature	Specification Details (Model PL-CP404)
Model Identifier	PL-CP404 (Customizable Series)
Material Options	High-Purity Isostatically Pressed Graphite / Anodized Aluminum Alloy
Hole Capacity	8-hole, 16-hole, or 24-hole standard configurations (Custom layouts available)
Hole Dimensions	Standard: 40mm Diameter x 40mm Depth (Customizable per requirements)
Temperature Range	Ambient to 260°C (Graphite) / Ambient to 400°C (Aluminum variants)
Temperature Stability	±0.5°C at steady state
Temperature Uniformity	±1.0°C across all sample positions
Control System	External or Integrated PID Digital Controller with LCD Display

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Feature	**Specification Details (Model PL-CP404)**	
Heating Method	Resistance heating with high-contact efficiency block design	
Protective Coating	Multi-layer anti-corrosion fluoropolymer treatment (Model-specific)	
Customization Options	Bespoke hole diameters, depths, spacing, and block dimensions available	
Power Supply	220V/110V (50/60Hz) tailored to regional standards	