Customizable Graphite Digestion System Acid Removal Instrument With Corrosion Resistant Coating For Microwave Vessels

Item Number: PL-CP146

Introduction

Optimize sample preparation with our customizable graphite digestion system. Featuring advanced corrosion-resistant coatings and perfect compatibility with microwave digestion vessels, this unit ensures high-purity results for demanding trace analysis and efficient acid removal in industrial laboratory workflows.

Learn More

Application	Description	Key Benefit
Environmental Trace Metal Analysis	Digestion of soil, sediment, and wastewater samples using concentrated mineral acids for EPA-compliant testing.	High-purity processing prevents cross-contamination and ensures low detection limits.
Pharmaceutical API Testing	Pre-treatment of active pharmaceutical ingredients for heavy metal limit testing (USP <232>/<233>).	Precise temperature control prevents the loss of volatile elements like Mercury and Arsenic.
Food Safety Auditing	Acid digestion of complex food matrices (meat, dairy, grains) to analyze for toxic elements and nutritional minerals.	Uniform heating ensures complete decomposition of organic matter across all samples.
Geochemical Exploration	Large-scale dissolution of geological ores and minerals using hydrofluoric and perchloric acid mixtures.	Superior corrosion resistance handles the most aggressive acid combinations without degradation.
Semiconductor Material Purity	Ultra-trace analysis of high-purity silicon and chemicals used in wafer fabrication.	PFA-coated surfaces minimize the introduction of metallic impurities during the heating process.
Petrochemical Catalyst Recovery	Digestion of spent catalysts to determine precious metal content (Pt, Pd, Rh) for recycling purposes.	Robust construction supports high-temperature cycles required for refractory material dissolution.
Clinical Toxicology	Preparation of biological fluids (blood, urine) for toxicological screening of heavy metal exposure.	Small footprint and high throughput allow for rapid processing in high-volume clinical settings.

Feature	PL-CP146 Specification / Customization Option
Model Identifier	PL-CP146
Core Material	High-density Isostatic Graphite (High Purity Grade)
Surface Protection	Multi-layer PFA/PTFE Anti-Corrosion Coating (Teflon-grade)
Temperature Range	Ambient to 260°C (Customizable up to 400°C for specialized graphite)
Temperature Stability	±0.5°C at steady state
Temperature Uniformity	±1.0°C @ 150°C across all block positions
Control Mode	External PID Digital Controller (Remote Operation)
Heating Program	Multi-stage ramp/soak (Standard: 16 steps; Custom: Up to 64 steps)
Hole Configuration	Customizable (Standard options: 12, 24, 36, 48, 54, or 72 holes)

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Vessel Compatibility	Custom CNC-drilled holes to fit any microwave liner or digestion tube diameter	
Safety Features	Over-temperature auto-shutdown, sensor failure alarm, shielded cabling	
Power Supply	110V/220V AC, 50/60Hz (Configured per region)	
Housing Material	SUS304 Stainless Steel with epoxy or fluoropolymer coating	
Custom Options	Custom block dimensions, integrated fume hoods, and specialized PFA vessel inserts	