

# Custom Graphite Digestion System And Acid Removal Unit With Anti Corrosion Coating For Microwave Digestion Vessels

Item Number: PL-CP321



## Introduction

Enhance laboratory efficiency with our custom graphite digestion and acid removal system featuring premium anti-corrosion coatings. Designed for seamless integration with microwave digestion vessels, this unit ensures precise thermal uniformity for demanding trace analysis and industrial sample preparation protocols.

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Application	Description	Key Benefit
Environmental Soil Analysis	Digestion of soil and sediment samples using concentrated acids for heavy metal detection via ICP-MS.	Consistent recovery rates across large sample batches due to thermal uniformity.
Pharmaceutical Trace Metals	Sample preparation for USP <232> and <233> compliance, involving the digestion of active ingredients and excipients.	Minimized contamination risk and precise temperature control for volatile element retention.
Post-Microwave Acid Driving	Evaporation of excess HF or HNO <sub>3</sub> from TFM/PFA microwave vessels after the primary digestion step is complete.	Eliminates the need for sample transfer, reducing labor and potential for loss.
Metallurgical Testing	Dissolution of high-purity alloys and ores using aqua regia or other aggressive mineral acids.	High-capacity heating block handles high-density samples with ease.
Food and Beverage Safety	Digestion of complex organic matrices for the analysis of arsenic, cadmium, and lead levels.	Robust anti-corrosion coating prevents damage from organic vapors and acid reflux.
Petrochemical Catalyst Recovery	Digestion of spent catalysts to quantify precious metal loading and impurity profiles.	Durable construction withstands 24/7 operation in industrial testing facilities.
Water Quality Monitoring	Large-volume digestion of wastewater and industrial effluent for environmental regulatory reporting.	Scalable hole configurations allow for high-throughput processing of standard tubes.
Geochemical Exploration	Decomposition of rock powders and mineral samples for rare earth element (REE) quantification.	Specialized block designs accommodate custom-sized digestion flasks and crucibles.

Feature	Specification Details for PL-CP321 Series
Model Identifier	PL-CP321 (Base Configuration)
Core Material	High-Purity Isostatic Graphite (Thermal Core)
Surface Protection	Custom Anti-Corrosion Fluoropolymer Coating (PTFE/PFA Blend)
Temperature Range	Fully Customizable (Defined by Customer Application Requirements)
Hole Configuration	Bespoke (Custom Diameter, Depth, and Array Pattern to match vessels)
Vessel Compatibility	Optimized for Microwave Digestion Vessels, PFA Tubes, and Quartz Flasks
Control System	Remote or Integrated PID Digital Controller (Specified at order)
Heating Uniformity	Industry-Leading Tolerance (Varies based on custom block dimensions)
Power Supply	Configurable for 110V/220V AC based on regional industrial standards

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Safety Features	Over-temperature Cut-off, Insulated Housing, Acid-Resistant Seals	
Customization Level	100% Tailored (Dimensions, Hole Count, and Thermal Specs)	