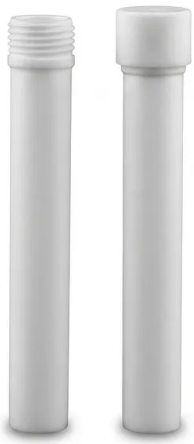
Custom High Purity Ptfe Microwave Digestion Vessels And Graphite Block Compatible Acid Evaporation Tanks For Trace Metal Analysis

Item Number: PL-CP141



Introduction

Engineered for high-pressure microwave systems and graphite digestion blocks, these custom PTFE vessels ensure zero contamination during trace metal analysis. Benefit from superior chemical resistance and bespoke 44-position configurations for demanding acid evaporation and sample preparation workflows.

Learn More

Application	Description	Key Benefit
Environmental Soil Analysis	High-pressure digestion of soil and sediment samples using concentrated acids for heavy metal monitoring.	Complete matrix decomposition and full release of trace elements for accurate EPA-level reporting.
ICP-OES Mineral Analysis	Digestion of geological ore and mineral samples for the determination of precious and base metal content.	Resists aggressive hydrofluoric acid treatments while maintaining low trace metal backgrounds.
Food & Agriculture Safety	Decomposition of organic matter in mushroom extracts, grains, and produce to test for toxic elements.	Ensures no cross-contamination or loss of volatile elements like selenium during the heating process.
Pharmaceutical Trace Testing	Preparation of active pharmaceutical ingredients (APIs) for heavy metal limit testing according to USP standards.	High-purity material prevents false positives by ensuring no leaching from the vessel walls.
Petrochemical Quality Control	Acid digestion of polymers and petroleum products to analyze catalyst residues and impurities.	Excellent thermal resistance allows for the high temperatures needed to break down complex hydrocarbons.
Academic Chemical Research	Custom-designed reaction vessels for bespoke electrochemical or hydrothermal synthesis experiments.	Flexibility in design allows researchers to create specialized setups for unique experimental conditions.

Feature	Specification for PL-CP141	Customization Options
Model Identifier	PL-CP141	Fully customizable per client requirements
Primary Material	High-Purity PTFE (Polytetrafluoroethylene)	Optional PFA for visual monitoring
Compatible Equipment	Microwave Digestion Systems & Graphite Blocks	Tailored to fit any major instrument brand
Operating Temperature	Up to 260°C (Material dependent)	Adjustable based on wall thickness and grade
Pressure Rating	Designed for high-pressure microwave environments	Custom reinforcement available
Configuration	44-Position Standard	Custom position counts and spacing available
Process Capability	Digestion and Acid Removal ( )	Dual-purpose design optimization
Fabrication Method	Ultra-precision CNC Machined	Bespoke geometry and threading
Chemical Resistance	Universal (HF, HNO3, HCl, H2SO4, etc.)	Absolute resistance to all laboratory acids
Trace Metal Background	Sub-ppb levels	High-purity cleaning protocols available