

High Performance Ptfе Microwave Digestion Vessel Replacement Bespoke Fluoropolymer Acid Digestion Tank Intelligent Sample Preparation Labware

Item Number: PL-CP132



Introduction

Optimize your trace analysis with high-purity PTFE microwave digestion vessels. Engineered for extreme chemical resistance and high-pressure reliability, our bespoke fluoropolymer solutions ensure zero contamination for demanding acid digestion, intelligent sample preparation, and high-performance analytical lab processes.

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Application	Description	Key Benefit
Environmental Trace Analysis	Digestion of soil, sediment, and wastewater samples for heavy metal detection via ICP-MS.	Zero leaching of trace contaminants ensures accurate detection limits for regulated pollutants.
Pharmaceutical Quality Control	Preparation of Active Pharmaceutical Ingredients (APIs) and excipients for elemental impurity testing.	High purity materials prevent interference with sensitive pharmaceutical assays.
Food Safety Testing	Decomposition of organic food matrices to monitor for contaminants like arsenic, cadmium, and lead.	Superior sealing prevents the loss of volatile analytes during rapid heating cycles.
Geochemical Exploration	Digestion of rock, ore, and mineral samples using aggressive acid mixtures including hydrofluoric acid.	Resistant to HF and high-pressure mineral decomposition without structural failure.
Petrochemical Analysis	Sample preparation of catalysts, polymers, and crude oil fractions for metallic residue analysis.	Chemical resistance to organic solvents and concentrated sulfuric acid mixtures.
Clinical Research	Digestion of biological tissues, blood, and bone samples for toxicology and metabolic studies.	Easy-to-clean surfaces reduce carry-over between diverse biological samples.
Advanced Materials Science	Synthesis and decomposition of novel nanomaterials and ceramic precursors under hydrothermal conditions.	Withstands the combination of high temperature and pressure required for hydrothermal reactions.

Parameter Group	Specification Detail	Product Item Number: PL-CP132
Material Construction	High-Purity PTFE / Modified TFM / PFA	Custom / Bespoke Specifications
Compatibility	Replacement for Major Microwave System Brands	Custom / Bespoke Specifications
Temperature Limit	Optimized for Microwave-Assisted Digestion	Custom / Bespoke Specifications
Pressure Rating	High-Pressure Safety Design	Custom / Bespoke Specifications
Vessel Capacity	Various Internal Volumes Available	Custom / Bespoke Specifications
Machining Precision	End-to-End CNC Fabrication	Custom / Bespoke Specifications
Surface Finish	Ra ≤ 0.4µm (Ultra-Smooth)	Custom / Bespoke Specifications
Chemical Resistance	Full range (HNO3, HCl, HF, H2O2, etc.)	Custom / Bespoke Specifications
Seal Type	Self-Sealing or Mechanical Gasket Systems	Custom / Bespoke Specifications