

# Ptfe Lined High Pressure Digestion Vessel 50MI High Temperature Hydrothermal Synthesis Tank

Item Number: PL-CP348



## Introduction

This premium 50ml high pressure digestion vessel features a precision-engineered PTFE lining for superior chemical resistance. Ideal for trace metal analysis and hydrothermal synthesis, this unit ensures high-purity results through robust, fully customizable industrial-grade construction and specialized engineering.

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Application	Description	Key Benefit
Geochemical Analysis	Dissolution of mineral ores, rocks, and soil samples using concentrated hydrofluoric or nitric acids.	Complete digestion of silicates and refractory minerals for accurate elemental profiling.
Environmental Testing	Digestion of wastewater, sludge, and industrial effluents to monitor heavy metal concentrations and pollutants.	Ensures zero contamination and high recovery rates for sensitive trace-level measurements.
Material Science	Hydrothermal synthesis of crystals, nanoparticles, and advanced zeolites under controlled pressure and heat.	Facilitates the growth of high-purity materials with precise control over morphology and size.
Food Safety	Preparation of agricultural products, meat, and dairy samples for analysis of toxins and nutritional minerals.	Rapid throughput and safe handling of organic materials during high-pressure mineralization.
Pharmaceutical Quality	Decomposition of active pharmaceutical ingredients (APIs) and excipients to test for residual metal catalysts.	High-purity environment prevents false-positive results in stringent regulatory testing environments.
Petrochemical Research	Analysis of crude oil, catalysts, and polymers to determine sulfur content and trace metal impurities.	Withstands aggressive solvents and high pressures required for breaking down long-chain hydrocarbons.
Metallurgical Testing	Digestion of high-purity alloys and precious metals for verification of composition and grade.	Provides the chemical resistance needed for handling aqua regia and other potent oxidizing agents.
Forensics	Analysis of minute biological or material samples collected from crime scenes for trace evidence verification.	Maximizes sample recovery and minimizes the risk of external airborne contamination during prep.

Feature	Specification Detail (PL-CP348)
Product Identifier	PL-CP348
Internal Liner Material	High-Density PTFE (Polytetrafluoroethylene) / Customizable
Outer Casing Material	Premium Stainless Steel (SS304/SS316) / Customizable
Standard Nominal Volume	50ml / Custom Volumes Available
Maximum Operating Temperature	Precision Engineered to Project Requirements / Customizable
Maximum Operating Pressure	Reinforced for Industrial Pressure Standards / Customizable
Sealing Mechanism	Circular Compression Seal with Threaded Cap / Customizable
Heating Method	Compatible with Ovens, Heating Blocks, or Mantles / Customizable
Liner Wall Thickness	Optimized for Thermal Transfer and Durability / Customizable

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Feature	Specification Detail (PL-CP348)	
Custom Options	Port Integration, Sensor Adapters, Specialized Liners / Customizable	