Custom Ptfe Digestion Vessel Sample Vial Straight Wall Test Tube High Temperature Low Background

Item Number: PL-CP283

Introduction

Discover high-purity custom PTFE digestion vessels and sample vials designed for ultra-trace analysis. Engineered for extreme chemical resistance and low metal backgrounds, these customizable flat or U-bottom tubes ensure reliable sample preparation in demanding laboratory and industrial environments.

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Application	Description	Key Benefit
Environmental Trace Analysis	Digestion of soil, sediment, and wastewater samples for heavy metal quantification.	Ensures zero contamination from the vessel walls, critical for regulatory compliance.
Semiconductor Grade Purity	Preparation of high-purity chemicals and silicon wafer etching solutions.	Maintains the extreme cleanliness levels required for sub-micron manufacturing processes.
Geochemical Exploration	Acid leaching of mineral ores and rock samples using concentrated hydrofluoric acid.	Resistant to HF, which would dissolve standard borosilicate or quartz laboratory glass.
Pharmaceutical R&D	Decomposition of organic compounds for elemental impurity testing (USP <232>/<233>).	Provides a non-reactive environment that prevents sample interaction with vessel materials.
Petrochemical Testing	Analysis of catalysts and crude oil fractions for nickel, vanadium, and sulfur content.	Withstands high-temperature hydrocarbon processing without leaching or structural failure.
Food Safety Testing	Microwave or block digestion of biological samples for arsenic and lead detection.	Facilitates the safe use of oxidizing acids while preserving volatile analyte concentrations.
Nuclear Industry	Handling of corrosive radioactive isotopes and specialty nuclear fuels.	Radiation resistance and chemical stability ensure safety in hazardous material processing.

Parameter	Specification Details for PL-CP283
Model Number	PL-CP283 (Bespoke Series)
Material Composition	High-Purity Virgin PTFE / PFA
Operating Temperature Range	-200°C to +260°C
Chemical Compatibility	Universal (except molten alkali metals and elemental fluorine)
Bottom Configurations	Flat Bottom, Round (U) Bottom, Conical (V) Bottom
Body Style	Straight-walled, Graduated (Optional), or Tapered
Closure Options	Screw Cap, Friction Fit, or Custom Flange
Dimensional Capacity	Fully Customizable (Inner Diameter, Outer Diameter, Total Height)
Wall Thickness	Customizable (Standard 2mm to 5mm+ available)
Surface Roughness	Ra < 0.4 µm (Standard CNC Finish)
Trace Metal Background	< 0.1 ppb for standard elements (after proper leaching protocols)

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Parameter	**Specification Details for PL-CP283**	
Fabrication Method	100% Precision CNC Machining	