

Custom Ptfе Continuous Reaction Bottles Virgin Fluoropolymer High Purity Low Background Synthesis Vessels

Item Number: PL-CP211



Introduction

High-purity custom PTFE continuous reaction bottles engineered for demanding chemical synthesis. Manufactured from virgin fluoropolymer for low background leaching, these corrosion-resistant vessels offer unmatched reliability for trace analysis and aggressive reagent handling in professional laboratory environments.

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Application	Description	Key Benefit
Trace Metal Analysis	Preparation and digestion of samples for ICP-MS and AAS where metal contamination must be avoided.	Lowest possible background interference for ppb-level accuracy.
Pharmaceutical Synthesis	Production of high-purity Active Pharmaceutical Ingredients (APIs) involving aggressive reagents.	Prevents product contamination and ensures high yields through non-stick surfaces.
Semiconductor Grade Chemicals	Handling and mixing of ultra-pure acids and solvents used in wafer fabrication processes.	Zero particle shedding and chemical stability in ultra-clean environments.
Battery Research	Testing of corrosive electrolytes and lithium-ion components at varying temperature ranges.	Resistance to chemical degradation from lithium salts and organic carbonates.
Environmental Monitoring	Large-scale digestion of soil, sediment, and wastewater samples using concentrated acids.	High durability and safety during aggressive acid digestion cycles.
Flow Chemistry	Continuous reaction processes requiring precise port integration and chemical resistance.	Customizable port configurations for seamless integration into flow systems.
Hydrothermal Synthesis	Reactions involving high pressure and temperature where glass or standard plastic would fail.	Safety and reliability under elevated pressure and thermal stress.

n## Technical Specifications

Feature	Specification Details for PL-CP211
Model Identifier	PL-CP211 Series
Standard Capacities	100ml, 250ml (Custom volumes available upon request)
Primary Material	100% Virgin PTFE (Polytetrafluoroethylene)
Material Purity	No recycled material; High-purity trace analysis grade
Temperature Range	-200°C to +260°C
Chemical Resistance	Resistance to all acids (including HF), bases, and organic solvents
Fabrication Method	Full Custom CNC Machining
Internal Finish	Super-smooth, crevice-free (Ra < 0.4µm)
Sealing Mechanism	Precision PTFE Screw Cap with Integrated Sealing Face

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Customization Options	Inlet/Outlet ports, internal baffles, sensor thermowells, jacketed designs	
Wall Thickness	Customizable; heavy-wall design as standard for safety	
Trace Elements	Ultra-low background for metal ion analysis	