

Custom Ptfе Conical Sample Cell Fluoropolymer Triangular Container Chemical Resistant Low Background Labware

Item Number: PL-CP240



Introduction

High-purity custom PTFE conical sample cells and triangular containers offer superior chemical resistance and low background interference. Ideal for trace analysis and aggressive media, these precision-machined fluoropolymer components ensure reliable, contamination-free performance in demanding laboratory environments.

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Application	Description	Key Benefit
Trace Metal Analysis	Preparation and digestion of samples for ICP-OES and ICP-MS analysis using concentrated acids.	Minimal ionic background interference and leaching.
Semiconductor Etching	Containing and handling high-purity etching solutions used in wafer processing and cleaning.	Resistance to HF and other aggressive photoresist strippers.
Pharmaceutical Synthesis	Small-batch reaction vessels for the synthesis of active pharmaceutical ingredients (APIs) under harsh conditions.	Prevents cross-contamination and ensures reaction purity.
Radioactive Isotope Storage	Safe containment of radiopharmaceuticals or radioactive tracer materials in medical research.	High material density and resistance to radiation-induced degradation.
Battery Research	Handling electrolytes and aggressive solvents in the development of next-generation lithium-ion components.	Non-reactive surface prevents electrolyte contamination.
Environmental Monitoring	Sampling and storage of seawater or soil extracts for heavy metal detection and pollution studies.	Long-term stability and prevention of sample adsorption to walls.
Aerospace Materials Testing	Testing the compatibility of seals and components with high-performance jet fuels and hydraulic fluids.	Maintains integrity under extreme pressure and temperature cycles.

Parameter	Specification / Capability for PL-CP240
Base Material	100% Virgin High-Purity PTFE (PFA/FEP options available)
Fabrication Method	Precision CNC Turning and Milling
Geometry Options	Conical bottom, Triangular, Flat-bottom, Tapered, or Custom-Contoured
Volume Capacity	Fully Customizable (0.5 mL to 5000 mL+)
Wall Thickness Range	1.0 mm to 50.0 mm (Customizable based on pressure requirements)
Operating Temperature	-200°C to +260°C (-328°F to +500°F)
Dimensional Tolerance	Up to ±0.05 mm (depending on geometry)
Surface Finish	Ra < 0.8 μm (High-polish options available for ultra-purity)
Chemical Compatibility	Universal (Except molten alkali metals and certain fluorine gas conditions)

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Closure Options Optional PTFE screw caps, snap-on lids, or ground-joint interfaces