Custom Ptfe Flask Large Volume 18L Corrosion Resistant Low Background High Purity Chemical Vessel

Item Number: PL-CP229

Introduction

Optimize high-purity chemical processing with our custom 18L PTFE flasks. Engineered for extreme corrosion resistance and ultra-low trace element background, these large-volume vessels support demanding industrial laboratory applications with precision-machined reliability, bespoke design options, and unparalleled performance.

Learn More

Application	Description	Key Benefit
Semiconductor Wafer Cleaning	Storage and mixing of ultra-pure etchants used in the cleaning of silicon wafers.	Prevents metallic ion leaching into high-purity acids.
Trace Metal Analysis	Sample preparation and digestion of environmental or geological samples for ICP-MS.	Minimizes background noise for accurate ppb/ppt detection.
Pharmaceutical Synthesis	Large-scale reaction of aggressive chemical intermediates in a sterile, inert environment.	Ensures product purity and resists corrosion from catalysts.
Petrochemical Additive Mixing	Blending of corrosive additives and heavy hydrocarbons at elevated temperatures.	High thermal resistance and mechanical durability.
Nuclear Waste Processing	Handling of radioactive isotopes and highly acidic waste streams during separation processes.	Material longevity and resistance to radiation-induced degradation.
Specialty Chemical Production	Custom batch production of reagents that require zero contact with glass or metallic surfaces.	Complete chemical isolation and bespoke vessel design.
Cryogenic Material Storage	Long-term containment of biological or chemical samples within liquid nitrogen environments.	Remains ductile and crack-resistant at cryogenic temperatures.

Parameter	Specification	Details
Model Identifier	PL-CP229	Custom Large-Volume Series
Primary Material	High-Purity Virgin PTFE	USP Class VI / FDA Compliant Grade
Nominal Volume	18,000 mL (18 Liters)	Custom volumes from 1L to 50L+ available
Operating Temperature	-200°C to +260°C	Sustained performance at extreme gradients
Chemical Resistance	Universal	Except molten alkali metals and fluorine gas
Trace Element Background	Ultra-Low / Analytical Grade	Optimized for ICP-MS and trace metal workflows
Fabrication Method	Full CNC Machining	Precision-turned from solid PTFE billet
Wall Thickness	Reinforced / Heavy-Duty	Calculated for structural integrity at 18L load
Neck Configuration	Customizable	Single, multiple, or threaded ports available
Surface Finish	< 0.5 µm Ra	Ultra-smooth interior to prevent adhesion

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Parameter	**Specification**	**Details**
Closure Type	Threaded PTFE Cap / PFA Fitting	Hermetic sealing options available
Base Design	Flat or Round Bottom	Engineered for stability or heat transfer