High Purity Pfa Reaction Vessel 4L Water Oxygen Separation Tank For Proton Exchange Membrane Electrolysis Experiments Customizable Laboratory Fluid Component

Item Number: PL-CP417

Introduction

Optimize PEM electrolysis research with our 4L high-purity PFA water-oxygen separation tank. Engineered for total chemical inertness, this customizable vessel prevents catalyst poisoning and membrane degradation, ensuring high-accuracy experimental results in demanding electrochemical and industrial green hydrogen laboratory applications.

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Application	Description	Key Benefit
PEM Electrolysis Research	Used as a primary water-oxygen separation tank in proton exchange membrane water electrolyzers.	Prevents membrane degradation and catalyst poisoning by ensuring high reactant purity.
Trace Metal Analysis	Housing and managing high-purity reagents and reaction intermediates in sensitive analytical chemistry.	Lowest leaching rates of any polymer material, ensuring baseline stability in spectroscopy.
Green Hydrogen Pilot Plants	Facilitating gas management and fluid circulation in scaled-up hydrogen production testing units.	Reliable performance under continuous operation with zero risk of chemical corrosion.
Hydrothermal Synthesis	Serving as a high-purity liner or reaction vessel for pressurized synthesis at elevated temperatures.	High-pressure resistance and non-stick characteristics facilitate post-reaction recovery.
Semiconductor Rinsing	Storage and distribution of ultra-pure water (UPW) and aggressive cleaning chemicals.	Maintains the extreme purity levels required for sub-micron semiconductor fabrication processes.
Electrochemical Flow Cells	Acting as an external reservoir and separator for electrolyte flow systems in battery or fuel cell testing.	Chemical inertness ensures that only the intended electrochemical reactions are measured.
Aggressive Acid Handling	Storage and transfer of concentrated mineral acids and oxidizing agents in chemical laboratories.	Total resistance to virtually all chemicals, extending the service life of laboratory infrastructure.

Parameter	Specification Details (Model PL-CP417)
Model Number	PL-CP417
Material Construction	High-Purity Perfluoroalkoxy (PFA)
Nominal Capacity	4 Liters (Customizable to specific volume requirements)
Wall Thickness	Customizable based on pressure and application needs
Temperature Resistance	-200°C to +260°C (-328°F to +500°F)
Chemical Compatibility	Universal (Except molten alkali metals and elemental fluorine)
Interface Options	Customizable CNC Machined Threads, Flanges, or Compression Fittings
Surface Finish	High-gloss, low-friction internal and external surfaces

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Parameter	**Specification Details (Model PL-CP417)**	
Standard Configuration	4L Tank with customizable porting (Top and side ports available)	
Visual Clarity	Translucent / Semi-transparent	