High Purity 4L Pfa Reaction Tank For Proton Exchange Membrane Electrolysis Water Oxygen Separation Systems

Item Number: PL-CP203

Introduction

High purity 4L PFA reaction tank designed for proton exchange membrane electrolysis. This customizable water oxygen separation vessel ensures trace metal inertness and extreme chemical resistance for critical laboratory research and industrial hydrogen production testing.

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Application	Description	Key Benefit
PEM Electrolysis Testing	Used as a reservoir and separation tank for water-fed proton exchange membrane electrolyzers.	Prevents trace metal contamination of the catalyst layer and membrane.
Green Hydrogen R&D	Managing the separation of hydrogen and oxygen gases from high-purity water streams in experimental rigs.	Ensures high gas purity and protects expensive electrochemical hardware.
Trace Metal Analysis	Serving as a reaction or storage vessel for samples intended for ICP-MS or fluorescence spectroscopy.	Eliminates background noise and interference from container-leached ions.
Hydrothermal Synthesis	Providing a clean, high-pressure resistant environment for the synthesis of quantum dots and single-atom catalysts.	Maintains absolute purity in high-temperature, pressurized aqueous environments.
Semiconductor Processing	Handling ultra-pure reagents and separation of byproduct gases in wet etching or cleaning phases.	Meets the stringent purity standards required for sub-nanometer manufacturing.
Photoacid Kinetic Research	Acting as a vessel for measurements of kinetic rate constants using sensitive spectroscopy techniques.	Prevents container walls from interfering with active photo-excited molecular species.
Fuel Cell Characterization	Storing and separating reactants for liquid-fed fuel cell systems during performance benchmarking.	Maintains consistent electrolyte chemistry for accurate lifecycle assessment.

Parameter	Specification Details for PL-CP203
Product Item Number	PL-CP203
Core Material	High-Purity Perfluoroalkoxy (PFA)
Nominal Capacity	4 Liters
Fabrication Method	Precision CNC Machined / Bespoke Fabrication
Temperature Resistance Range	-200°C to +260°C
Chemical Compatibility	Universal resistance to virtually all acids, bases, and solvents
Surface Finish	High-smoothness, non-porous fluoropolymer surface
Customization Options	Inlet/Outlet port sizes, NPT/Flange fittings, custom height/diameter ratios
Transparency	Translucent for visual fluid monitoring
Metal Ion Leaching	Below detection limits for standard analytical grades
Application Suitability	PEM Electrolysis, Water-Oxygen Separation, Trace Analysis