

High Purity Pfa Reaction Tank For Proton Exchange Membrane Electrolysis And Water Oxygen Separation Custom Labware

Item Number: PL-CP51



Introduction

Engineered for high-purity electrolysis, this 4L PFA reaction tank offers exceptional chemical resistance and thermal stability. Ideal for proton exchange membrane experiments, our customizable water-oxygen separation vessels ensure zero-contamination results for critical analytical and industrial electrochemical processes.

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Application	Description	Key Benefit
PEM Electrolysis	Separation of oxygen and water in hydrogen production research and fuel cell testing.	Zero ion contamination
Semiconductor Etching	Housing and circulating ultra-pure etching acids and cleaning solutions for wafer processing.	Material purity and safety
Trace Metal Analysis	Preparation and storage of samples for ICP-OES and ICP-MS analysis in environmental monitoring.	No leaching of metal ions
Redox Flow Batteries	Serving as a reaction or storage vessel for corrosive electrolytes in energy storage development.	Long-term chemical resistance
Pharmaceutical Synthesis	Reaction vessel for the production of high-purity active pharmaceutical ingredients (APIs).	FDA-compliant material path
Petrochemical Sampling	Handling of highly acidic or caustic crude oil derivatives during laboratory quality control.	Prevention of vessel corrosion
Hydrothermal Research	Conducting chemical reactions at elevated temperatures and pressures involving volatile reagents.	High thermal/pressure rating
Bespoke Lab Setup	Custom-configured separation tank for non-standard gas-liquid extraction processes.	Full design flexibility

Feature	Specification Details for PL-CP51
Base Material	High-Purity Perfluoroalkoxy Alkane (PFA)
Standard Capacity	4.0 Liters (Full range of custom volumes available)
Temperature Range	-200°C to +260°C (-328°F to +500°F)
Chemical Resistance	Universal resistance to acids, alkalis, and solvents
Manufacturing Process	Precision CNC Machining / Custom Fabrication
Port Configurations	Fully customizable (NPT, Flange, or Compression fittings)
Wall Thickness	Customizable based on pressure and thermal requirements
Sealing Mechanism	Threaded PFA caps with integrated O-rings or bespoke gaskets
Translucency	Semi-transparent for visual fluid level monitoring
Trace Element Level	<10 ppt for most common metallic impurities
Customization Scope	Internal baffles, thermowells, and sensor ports available