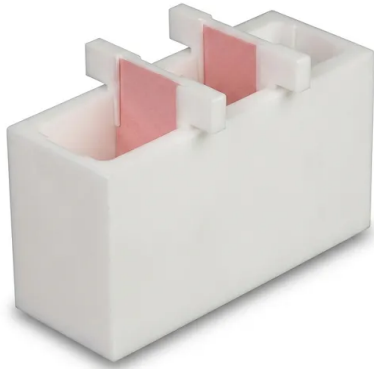


Square PTFE Electrochemical Cell For Silicon Wafer Processing And Hydrofluoric Acid Resistance In Semiconductor And New Energy Research

Item Number: PL-CP151



Introduction

This high-purity PTFE square electrochemical cell offers exceptional hydrofluoric acid resistance for silicon wafer processing in semiconductor and new energy sectors, featuring fully customizable dimensions and rigorous bespoke engineering to meet specific demanding laboratory research and industrial production requirements.

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Application	Description	Key Benefit
Semiconductor Wafer Etching	Used for the controlled removal of material layers from silicon wafers using HF-based etchants.	Zero material degradation and precise containment of aggressive acids.
Photovoltaic Research	Testing and optimizing the electrochemical efficiency of silicon-based solar cell layers and coatings.	Uniform field distribution across large-format square substrates.
Lithium-Ion Battery Testing	Housing corrosive electrolytes for the analysis of anode and cathode performance in new energy storage devices.	Complete inertness against advanced battery chemistries and electrolyte salts.
Nano-fabrication & MEMS	Specialized vessel for the fabrication of Micro-Electro-Mechanical Systems requiring high-purity chemical baths.	Prevention of trace metal contamination during critical processing steps.
Electroplating Processes	Deposition of metals onto semiconductor substrates or energy-related components in acidic or alkaline baths.	Resistance to both extreme pH levels and high current densities during plating operations.
Corrosion Science	Studying the durability of materials in highly aggressive environments, such as those found in chemical processing.	Reliable containment that outperforms glass and standard polymers in long-term exposure.

Specification	Details for PL-CP151
Product Item Number	PL-CP151
Primary Material	High-Purity PTFE (Polytetrafluoroethylene)
Tank Configuration	Square / Rectangular Monolithic Tank
Chemical Compatibility	Hydrofluoric Acid, Aqua Regia, Sulfuric Acid, Strong Alkalis, Organic Solvents
Substrate Compatibility	Silicon Wafers (Customizable for 2", 4", 6", 8", 12" or bespoke sizes)
Operating Temperature Range	-200°C to +260°C
Customization Options	Bespoke dimensions, wall thickness, and port placement per customer drawings
Manufacturing Process	Precision CNC Machining (End-to-End)
Sealing Components	Optional PFA/PTFE Lids, FKM/PTFE Gaskets, and PFA fittings
Internal Finish	Ultra-smooth, low-porosity surface to minimize residue accumulation