KINTEK

Standard & Customized Electrochemical Cells Catalog

Contact us for more catalogs of PTFE(Teflon) Products, Sample Preparation & Filtration, Reaction & Synthesis Equipment, High-Purity & Trace Analysis, Custom Machining Services, General Consumables & Seals, Electrochemistry & New Energy Testing, Basic Labware & Containers, Fluid Transfer, Tubing & Valves, etc.

KINTEK

COMPANY PROFILE

>>> About Us

From everyday basic labware (beakers, measuring cylinders, crucibles, dishes, reagent/wash bottles, centrifuge and digestion tubes), high-purity trace analysis instruments, and cleaning/storage tanks, to comprehensive fluid transfer components (tubing, fittings, valves), sample prep and filtration tools (separatory funnels, burettes, filters, pipettes, tweezers, spatulas), and general consumables (stirring bars, O-rings, gaskets, seal tapes, caps, septa), extending all the way to advanced derivative and reaction apparatus like standard or custom electrochemical cells, battery testing fixtures, electrode accessories, hydrothermal synthesis liners, microwave digestion vessels, microchannel reactors, and condensation/reflux devices, KINTEK manufactures virtually all imaginable laboratory supplies crafted from PTFE and PFA. Backed by end-to-end custom CNC fabrication, we are equipped to deliver absolutely everything from complex non-standard machined parts and bespoke laboratory setups to high-volume orders, maintaining an exclusive and absolute focus on high-performance fluoropolymer materials.

Acid Resistant Ptfe Button Cell Battery Test Fixture Customizable Machining High Purity Electrochemical Testing Clamp

Item Number: PL-CP35

Introduction

High-purity PTFE button cell testing fixtures provide exceptional acid resistance and electrical insulation for precise electrochemical analysis. These customizable clamps eliminate stray currents and prevent electrolyte corrosion during rigorous battery research and development processes in demanding labs.

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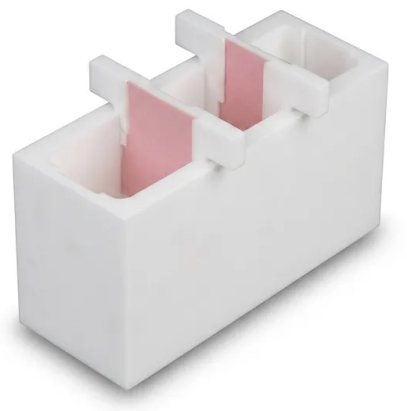
Application	Description	Key Benefit
Next-Generation Li-ion R&D	Characterizing new electrolyte formulations and cathode/anode materials in coin cell formats.	Prevents electrolyte contamination and side reactions with the fixture.
Solid-State Battery Testing	Evaluating ion conductivity and interface stability in solid-state electrolytes under controlled pressure.	High insulation prevents baseline noise in low-current measurements.
Supercapacitor Analysis	Measuring charge-discharge profiles and ESR in high-performance electrochemical capacitors.	Low parasitic capacitance ensures accurate high-frequency response data.
Acidic Electrolyte Studies	Testing lead-acid or flow battery components in highly corrosive sulfuric acid environments.	Long-term resistance to acid mist and direct liquid contact.
Corrosion Research	Investigating the degradation of metallic components within electrochemical cells.	Material inertness ensures the fixture does not contribute to the corrosion profile.
EIS Characterization	Performing high-precision impedance spectroscopy to identify internal resistance components.	Minimal signal distortion due to superior dielectric properties of PTFE.
Aerospace Battery Testing	Conducting performance audits of button cells destined for extreme vacuum or high-altitude environments.	Outgassing-resistant materials maintain vacuum integrity and sample purity.

Feature	Specification Details (Model PL-CP35)
Base Material	High-Purity Polytetrafluoroethylene (PTFE)
Manufacturing Process	High-Precision Custom CNC Machining
Volume Resistivity	> 10^18 Ω·cm
Dielectric Strength	~ 60 MV/m
Dielectric Constant	2.1 (at 1 MHz)
Chemical Resistance	Universal (Except molten alkali metals and fluorine gas)
Maximum Operating Temperature	Refer to specific custom configuration (Typically up to 260°C)
Contact Material Options	Customizable (Gold-plated, Stainless Steel, Platinum, etc.)
Cell Compatibility	Customizable (Commonly 2016, 2025, 2032, and bespoke sizes)
Customization Scope	Dimensions, terminal types, number of electrodes, and pressure mechanisms

Corrosion Resistant Ptfe Electrochemical Cell For New Energy Research Inert Insulating Customizable Lab Reaction Vessel

Item Number: PL-CP154



Introduction

Professional PTFE electrochemical cell designed for new energy research featuring exceptional chemical inertness and corrosion resistance. Available in 400ml and 1000ml capacities with full customization for advanced battery testing and high-purity trace analysis delivering reliable industrial performance and extreme durability.

Learn More

Application	Description	Key Benefit
Lithium Battery R&D	Testing of novel electrolyte formulations and electrode materials in a zero-contamination environment.	Prevents trace metal contamination
Hydrogen Fuel Cell Testing	Analysis of proton exchange membrane (PEM) components under acidic conditions.	Resistance to hydrofluoric acid
Semiconductor Wet Processing	High-purity etching and cleaning process simulation for wafer fabrication.	Chemical stability under plasma exposure
Corrosion Science	Long-term immersion and electrochemical impedance spectroscopy (EIS) of metal alloys.	Durable against aggressive oxidizers
Trace Metal Analysis	Digestion and reaction vessel for samples requiring extremely low background interference.	Minimal ion leaching
Supercapacitor Development	Evaluation of high-surface-area carbon materials in organic and aqueous electrolytes.	Wide voltage window stability
Molten Salt Chemistry	High-temperature electrochemical reactions in non-aqueous, highly corrosive environments.	Thermal and chemical robustness

Parameter	PL-CP154-400 (Standard)	PL-CP154-1000 (Standard)	Custom Specification
Nominal Capacity	400ml	1000ml	Per Client Requirement
Body Material	High-Purity Virgin PTFE	High-Purity Virgin PTFE	Filled PTFE available
Specific Gravity	2.10 - 2.20 g/cc	2.10 - 2.20 g/cc	Material dependent
Melting Point	621°F / 327°C	621°F / 327°C	Fixed for PTFE
Heat Deflection Temp	248°F / 120°C	248°F / 120°C	Material dependent
Hardness (Shore D)	55D	55D	Customizable surface finish
Tensile Strength	2990 - 4970 psi	2990 - 4970 psi	High-strength variants
Dielectric Constant	2.1	2.1	Ultra-insulating
Water Absorption	0.01% (24 hrs)	0.01% (24 hrs)	High-purity standard
Coefficient of Friction	0.110	0.110	Low-adhesion surface
Electrode Ports	Customizable	Customizable	CNC Machined Threading

Application	Description	Key Benefit	
Parameter	**PL-CP154-400 (Standard)**	**PL-CP154-1000 (Standard)**	**Custom Specification**
Sealing Mechanism	O-ring / Gasket Seal	O-ring / Gasket Seal	High-vacuum options

Corrosion Resistant Ptfe Coin Cell Battery Testing Clamps And Acid Proof Custom Fluoropolymer Battery Fixtures

Item Number: PL-CP400

Introduction

Engineering-grade PTFE coin cell battery testing clamps offer unparalleled acid resistance and electrical insulation for high-precision electrochemical research. These customizable fixtures prevent stray currents and electrolyte corrosion, ensuring reliable data acquisition in demanding laboratory environments across global industrial battery sectors.

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Application	Description	Key Benefit
Lithium-Ion Research	Characterizing half-cell and full-cell performance of new cathode and anode materials.	Prevents electrolyte-induced corrosion of testing hardware.
Supercapacitor Testing	Measuring the charge-discharge cycles and capacitance of high-surface-area materials.	Low parasitic capacitance for accurate high-frequency data.
Acidic Electrolyte Studies	Testing lead-acid or redox flow battery chemistries involving highly concentrated sulfuric or phosphoric acids.	Absolute chemical resistance to corrosive mist and liquids.
Solid-State Battery Development	Evaluating interface impedance and ionic conductivity in experimental solid electrolytes.	High electrical insulation ensures measurement of the sample only.
Aerospace Power Systems	Stress-testing battery components under varying thermal and chemical environments.	Dimensional stability ensures consistent contact pressure.
Academic Materials Science	Standardized testing of novel thin-film electrodes and separator materials in university labs.	High-purity construction prevents sample contamination.
Industrial QC Testing	Batch testing of coin cells for quality assurance in commercial battery production lines.	Durable construction withstands high-volume usage cycles.

Attribute	Specification Details for PL-CP400
Model Identifier	PL-CP400 Series
Primary Body Material	High-Purity PTFE (Polytetrafluoroethylene)
Chemical Resistance	Resistant to all acids, alkalis, and organic solvents (Universal)
Volume Resistivity	> 10^18 Ω·cm
Dielectric Strength	≈ 60 MV/m
Dielectric Constant	2.1 (at 1 MHz)
Fabrication Method	End-to-end custom CNC machining
Dimensions	Fully customizable based on user-provided drawings or specifications
Contact Type	Customizable (e.g., gold-plated, platinum, or stainless steel inserts)
Operating Temperature	-200°C to +260°C (Material limit)
Product Classification	Custom-engineered laboratory testing hardware

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