

All Ptfе Photoelectrochemical Cell With Quartz Window For Three Electrode Electrochemistry

Item Number: PL-DJ23



Introduction

Discover our premium all PTFE photoelectrochemical cell designed for advanced three electrode testing. Featuring a high transmittance detachable quartz window, 360 degree rotatable lid, and secure O ring seals, this chemical resistant unit ensures maximum precision and exceptional durability.

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Application	Description	Key Benefit
Photoelectrochemical Water Splitting	Investigating solar-to-hydrogen conversion efficiencies of photoanodes and photocathodes under simulated solar light.	The high transmittance (>95%) quartz window allows accurate photon flux calibration and quantum yield calculation.
Photocatalytic Carbon Dioxide Reduction	Conducting CO ₂ RR studies at the gas-solid-liquid interface under controlled atmospheres and continuous gas purging.	Hermetic compression sealing prevents atmospheric oxygen ingress, ensuring highly accurate chromatographic gas analysis.
Highly Alkaline Water Electrolysis	Testing novel electrocatalysts in concentrated potassium hydroxide solutions at high operating temperatures.	The pure PTFE cell body resists alkaline corrosion, preventing silicate leaching that could poison active catalyst sites.
Semiconductor Bandgap Analysis	Performing Mott-Schottky measurements and photo-assisted linear sweep voltammetry on thin-film semiconductors.	The 360-degree rotatable lid ensures precise and repeatable positioning of the semiconductor surface relative to the light path.
Photo-Assisted Advanced Oxidation	Evaluating the degradation of organic pollutants using photocatalytic materials under UV-visible illumination.	Detachable quartz windows facilitate quick replacement after testing highly depositing or staining chemical compounds.
High-Purity Electroanalytical Research	Performing trace metal analysis and cyclic voltammetry where any background contamination must be eliminated.	The ultra-clean fluoropolymer structure guarantees zero metal-ion leaching, ensuring background current stability.

Parameter	Specification Detail	Model Series: PL-DJ23
Product Code	PL-DJ23	Primary Base Reference
Primary Application	Photoelectrochemical (PEC) Testing	Optimized for optical-electrochemical coupling
Cell Body Material	High-Purity Polytetrafluoroethylene (PTFE)	CNC Machined
Window Material	Detachable Optical Quartz	Replaceable assembly
Optical Transmittance	≥ 95%	UV-Vis light transmission range
Standard Volumetric Capacities	30ml, 50ml, 100ml, 150ml, 250ml, 500ml	Custom sizes manufactured upon request
Electrode Configuration	Three-Electrode System	Working, Auxiliary, and Reference
Electrode Interface Diameter	6.0 mm	Designed for elongated electrode shafts
Sealing Interface	Outer Threaded PTFE Cap with Rotatable Core	360-degree adjustable alignment
Port Gas Sealing	PTFE Plugs with compression screw O-rings	Hermetic seal for volatile/anaerobic tests
Purging Device	Sub-liquid PTFE aeration tube	Included as standard equipment
Optional Modifications	Custom liquid sampling port	Available (subject to additional custom surcharge)