



KINTEK

## Electrode Jackets & Base Accessories 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.



# Rotating Disk Electrode Horizontal Support Stand

Item Number: PL-DZ01



## Introduction

High-purity PTFE rotating disk electrode horizontal support stand with leveling base holds up to six electrodes. Engineered for electrochemical research, battery testing, and corrosion analysis, it offers exceptional chemical resistance and stability. Request a quote for custom configurations.

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Application	Description	Key Benefit
Electrocatalyst Screening	Parallel evaluation of multiple catalyst formulations under identical hydrodynamic conditions, often using oxygen reduction or hydrogen oxidation reactions.	Higher throughput with minimized cross-contamination risk; direct comparative data from a single experimental run.
Lithium-Ion Battery Research	Studying oxygen evolution/reduction reactions on rotating disk electrodes for next-generation battery cathodes and anodes.	Stable, inert platform prevents side reactions from metal supports that could distort electrochemical signatures.
Corrosion Rate Testing	Measuring corrosion currents of metallic samples in aggressive media using multiple electrodes simultaneously, e.g., for inhibitor efficiency studies.	Reliable, reproducible data thanks to precise leveling and chemical resistance; no contribution from support material itself.
Electroplating Bath Analysis	Assessing additive performance and mass transport properties in electroplating solutions by monitoring current-potential curves.	PTFE inertness avoids interference with plating chemistry, ensuring accurate bath constituent evaluation.
Sensor Development	Characterizing amperometric or voltammetric sensor responses with rotating electrodes to determine sensitivity and limit of detection.	Multi-electrode setup enables rapid prototyping and comparison of sensor coatings or electrode materials.
Fuel Cell Membrane Studies	Evaluating the activity of electrocatalysts for proton exchange membrane fuel cells via rotating disk electrode techniques.	Clean, metal-free environment maintains sample integrity and avoids poisoning from support-derived metal ions.
Academic Research & Teaching	Demonstrating fundamental electrochemical principles such as mass transport, kinetics, and hydrodynamic voltammetry in teaching labs.	Robust design withstands frequent handling and student use; easy setup reduces lab preparation time.
Photoelectrochemistry	Investigating light-induced electrochemical processes on semiconductor electrodes mounted on RDE tips for solar fuel generation research.	Transparent, non-contaminating base allows for unobstructed light paths while maintaining stable rotation.

Specification	Value
Model	PL-DZ01
Material	Virgin PTFE (polytetrafluoroethylene)
Electrode Mounting Capacity	Up to 6 rotating disk electrodes
Base Design	Leveling base with adjustable feet; supplementary plastic base for additional stability
Compatible Electrode Types	Standard RDE tips (shaft diameters 3–6 mm typical; custom upon request)
Chemical Compatibility	Resistant to most acids, bases, and organic solvents; pH range 0–14
Operating Temperature Range	-200°C to +260°C (PTFE limits)
Manufacturing Method	CNC machined from solid PTFE blocks
Surface Finish	Smooth, non-porous, and non-stick
Dimensions (typical)	Customizable; please contact KINTEK for exact specifications

# Hydrophilic Carbon Paper Gas Diffusion Layer For Fuel Cells And Electrochemical Systems

Item Number: PL-TZ01



## Introduction

Highly conductive hydrophilic carbon paper optimized for fuel cells and electrochemical systems. This gas diffusion layer prevents catalyst flooding, enhances gas distribution, provides structural MEA support, and delivers outstanding thermal and electrical conductivity for advanced laboratory research applications.

[Learn More](#)

Application	Description	Key Benefit
Proton Exchange Membrane Fuel Cells (PEMFC)	Acts as the primary gas diffusion layer between the flow channels and the catalyst-coated membrane.	Prevents water flooding at high current densities, maintaining stable fuel cell voltage output.
Direct Methanol Fuel Cells (DMFC)	Facilitates simultaneous liquid methanol transport and carbon dioxide gas bubble evacuation.	Accelerates mass transfer kinetics and prevents gas-lock within the porous electrode structure.
Redox Flow Batteries (RFB)	Serves as a highly conductive electrode substrate for electrolyte flow distribution and reaction.	Maximizes specific surface area and reduces electrical resistance, enhancing battery energy efficiency.
Water Electrolyzers (PEM/AEM)	Operates at the anode and cathode interfaces to manage gas evolution and water input supply.	Enhances bubble detachment and maintains mechanical contact under high differential operating pressures.
Electrochemical CO <sub>2</sub> Reduction	Provides a stable gas-liquid interface for the selective reduction of carbon dioxide at the cathode.	Delivers uniform reactant gas distribution to the catalyst layer, enhancing product selectivity.
Custom Laboratory Reactors	Integrates easily into non-standard electrochemical cells and diagnostic testing systems.	Offers easy adaptability, custom sizing, and reliable execution of analytical measurements.

Parameter Class	Property	Specification Value (Model PL-TZ01)
<b>Physical Properties</b>	Base Material	High-Purity Carbon Fiber
	Hydrophilic Treatment	Yes (Weakly Hydrophobic Surface Balance)
	Thickness (Nominal)	0.28 mm ± 0.02 mm
	Basis Weight	120 g/m <sup>2</sup>
	Porosity	78%
<b>Electrical &amp; Thermal</b>	Through-Plane Resistivity	< 8.0 mΩ·cm <sup>2</sup>
	In-Plane Resistivity	< 2.5 mΩ·cm
	Thermal Conductivity	0.28 W/(m·K) (Through-plane)
<b>Mechanical Properties</b>	Tensile Strength (Machine Direction)	> 0.8 kN/m
	Compressive Strain	< 10% (at 1 MPa pressure)
	Flexural Rigidity	Excellent (Optimized for MEA support)
<b>Operating Limits</b>	Max Operating Temperature	250°C
	Chemical Compatibility	pH 0 to 14



**Kintek**

Head Quarter: No.89 Science Avenue, High-Tech Zone,  
Zhengzhou, China

