

Gold Wire Electrode Clamp With Fluoropolymer Body And High Purity Contacts For Electrochemical Cells

Item Number: PL-DJ42



Introduction

Eliminate hydrogen evolution interference with this high-purity gold wire electrode clamp, featuring a precision one-millimeter opening, chemically inert PTFE or PEEK bodies, and solid gold contact sheets designed for highly sensitive electrochemical research and demanding analytical laboratory applications.

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Application	Description	Key Benefit
Electrocatalytic CO2 Reduction	Used to hold gold or copper wire/foil catalysts in high-purity H-type electrochemical cells without introducing external platinum nanoparticles.	Eliminates background hydrogen evolution, ensuring all measured current is directly attributable to carbon dioxide reduction.
Acidic Media Corrosion Testing	Securely mounts metal coupons or wire samples in highly concentrated sulfuric or hydrochloric acid solutions.	Complete chemical resistance of the PEEK or PTFE body protects the electrical connection from corrosive acid vapors.
Analytical Cyclic Voltammetry	Clamps micro-wire working electrodes for high-sensitivity trace metal detection in environmental water samples.	Ultra-low contact resistance minimizes ohmic drop, yielding sharp, high-resolution voltammetric peaks.
PEM Fuel Cell Testing	Holds membrane-electrode assemblies and thin-film catalysts during cyclic degradation and durability profiling.	Prevents platinum migration and localized catalyst poisoning, maintaining baseline test validity.
Electrochemical Impedance Spectroscopy	Connects to high-frequency disc electrodes to analyze battery electrolyte interface layers.	Stable, low-impedance gold-to-gold contact ensures high-frequency phase angles remain unskewed by joint resistance.
Organic Electrosynthesis	Clamps working electrodes in non-aqueous organic solvents containing aggressive supporting electrolytes.	Solvent-resistant PTFE construction prevents swelling, dissolution, or leaching of plasticizers into the reaction mixture.

Parameter	Specification Details for PL-DJ42
Product Model Code	PL-DJ42
Clamp Opening Size	1.0 mm (Fixed Gap Tolerance: ± 0.05 mm)
Contact Surface Material	Solid High-Purity Gold (Au $\geq 99.99\%$)
Alternative Contact Materials	Platinum (Pt), Glassy Carbon (GC)
Body Insulation Material	PTFE (Polytetrafluoroethylene) or PEEK (Polyetheretherketone)
Metal Clamp Core Options	Single-Block Machined Stainless Steel, Copper, Titanium
Mounting Rod Diameter	6.0 mm (Standard)
Mounting Rod Length	80 mm / 100 mm / 120 mm (Custom lengths available on request)
Conductive Connection	Internal gold-plated brass connector to 2mm banana jack

Property / Parameter	PTFE Body Variant (PL-DJ42-T)	PEEK Body Variant (PL-DJ42-P)
Continuous Operating Temp.	-200°C to +260°C	-50°C to +250°C

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Chemical Resistance	Universal (Except molten alkali metals)	Excellent (Except concentrated nitric/sulfuric acid)
Tensile Strength	20-30 MPa	90-100 MPa (High rigidity)
Dielectric Strength	> 20 kV/mm	> 19 kV/mm
Water Absorption	< 0.01%	< 0.1%