

# Replaceable Platinum Electrode Clamp PTFE Corrosion Resistant Sample Holder

Item Number: PL-JM04



## Introduction

High-performance replaceable platinum electrode clamp with PTFE holder and pure platinum connection, offering superior corrosion resistance and electrical conductivity. Standard 80mm length supports 1.5mm samples; fully customizable. Ideal for electrochemistry and corrosion studies. Contact KINTEK for a custom solution.

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Application	Description	Key Benefit
Corrosion Rate Measurement	Working electrode holder in potentiodynamic polarization and linear polarization resistance tests on metal coupons.	Secure clamping prevents crevice corrosion artifacts and ensures uniform current distribution.
Battery Electrode Screening	Holds anode or cathode foils during cyclic voltammetry and galvanostatic charge-discharge cycling in coin cell or three-electrode setups.	Rapid sample exchange enables parallel screening of dozens of electrode formulations per day.
Electroplating Process Development	Used as a cathode clamp in Hull cell or beaker-scale plating experiments to evaluate deposit quality.	Inert materials eliminate contamination that could alter plating bath chemistry or deposit properties.
Electrocatalytic Activity Testing	Mounts catalyst-coated substrates (e.g., glassy carbon, metal mesh) for oxygen reduction, hydrogen evolution, or CO2 reduction studies.	Pure platinum contact minimizes background currents, improving detection limits for faradaic processes.
Electrochemical Sensor Fabrication	Clamps functionalized electrodes during amperometric or potentiometric sensor calibration and testing.	Interchangeable sample design allows direct comparison of different receptor films on identical substrates.
Ionic Conductivity Studies	Holds thin electrolyte membranes or solid-state electrolytes for impedance spectroscopy in temperature-controlled cells.	Adjustable slit width accommodates delicate membranes without fracturing them.
Teaching and Academic Laboratories	Demonstrates fundamental electrochemical concepts (e.g., Tafel plots, diffusion-limited currents) using disposable metal coupons.	Rugged, chemically resistant construction withstands harsh student handling and repeated cleaning.
Quality Control in Metal Finishing	Used in passivation or anodizing tests to verify surface treatment effectiveness on production parts.	Reliable electrical contact and inert holder ensure test repeatability across batches.

Specification	Value
Product Item Number	PP-JM04
Outer Sleeve Material	PTFE (Polytetrafluoroethylene)
Connection Material	Pure Platinum
Electrode Clamp Length	80 mm (standard), custom lengths available
Binding Post Length	20 mm
Clamp Slit Width	≤ 1.5 mm (supports sample pieces up to 1.5 mm thickness), customizable
Diameter Tolerance	±0.1 mm
Length Tolerance	±2 mm
Recommended Operating Temperature	Room temperature (ambient conditions recommended for optimal platinum contact integrity)

Specification	Value
Sample Exchange Mechanism	Tool-free replacement; sample piece is pressure-fitted