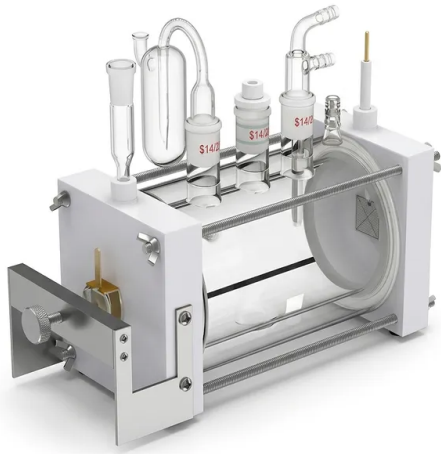


Flat Plate Corrosion Test Electrochemical Cell Jacketed Glass Labware For Sheet Specimen Metallurgy Analysis

Item Number: PL-DJ19



Introduction

Engineered for precise flat specimen corrosion testing, this premium electrochemical cell features a robust borosilicate body, customizable exposure windows, advanced gas purging, and high-performance PTFE components to deliver reliable, highly repeatable results in demanding laboratory and research facilities.

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Application	Description	Key Benefit
Marine Engineering Alloys	Characterizing the pitting and galvanic corrosion behavior of marine-grade aluminum and stainless steels.	Simulates harsh saltwater environments to accurately determine localized corrosion resistance.
Anti-Corrosive Coatings	Conducting electrochemical impedance spectroscopy on painted, epoxy-coated, and polymer-coated metal plates.	Precision-machined exposure aperture provides highly repeatable barrier resistance measurements.
Aerospace Materials R&D	Evaluating structural integrity and passivation dynamics of titanium, magnesium, and aluminum-lithium alloys.	Fast-clamping mechanism enables high-throughput testing of diverse alloy chemistry configurations.
Battery Current Collectors	Investigating electrochemical degradation of copper and aluminum foil collectors in aggressive organic battery electrolytes.	Hermetic O-ring seal prevents volatile solvent evaporation and atmospheric contamination.
Chemical Process Piping	Simulating chemical process streams containing warm acids and aggressive bases on nickel-based superalloys.	Thermal-jacketed cell configuration allows testing at exact industrial process operating temperatures.
Electronics Metallization	Assessing the corrosion rates of thin-film metallization layers and barrier layers on silicon wafers.	Customizable aperture sizes accommodate fragile, non-standard wafer geometries without fracturing.
Municipal Infrastructure	Testing the corrosion rate of carbon steels and concrete reinforcement bars in Simulated Concrete Pore Solution (SCPS).	Rugged structural design handles heavy, dense plate specimens with absolute stability.

Technical Specification	PL-DJ19 (Single-Layer Model)	PL-DJ19-J (Double-Layer Jacketed Model)
Cell Body Material	High-Purity Borosilicate Glass	Jacketed High-Purity Borosilicate Glass
Cell Lid Material	CNC-Machined Chemical-Resistant PTFE	CNC-Machined Chemical-Resistant PTFE
Working Electrode Type	Flat Plate / Sheet Specimen	Flat Plate / Sheet Specimen
Standard Exposure Aperture	1.0 cm ² (Custom diameters available)	1.0 cm ² (Custom diameters available)
Specimen Clamping Assembly	316F Stainless Steel Tension Bracket	316F Stainless Steel Tension Bracket
Electrical Connection Method	Gold-Plated Copper Plate Extrusion	Gold-Plated Copper Plate Extrusion
Gas Inlet Configuration	Dual-Phase F-Type Purge Inlet	Dual-Phase F-Type Purge Inlet
Gas Backflow Prevention	Specialized Liquid Seal / Bubbler Unit	Specialized Liquid Seal / Bubbler Unit
Counter Electrode (CE)	20mm x 20mm Platinum Mesh Electrode (Included)	20mm x 20mm Platinum Mesh Electrode (Included)
Reference Electrode (RE)	R1060 Ag/AgCl Reference Electrode (Included)	R1060 Ag/AgCl Reference Electrode (Included)

Technical Specification	PL-DJ19 (Single-Layer Model)	PL-DJ19-J (Double-Layer Jacketed Model)
Salt Bridge Assembly	Glass Bridge with KNO ₃ /KCl compatibility	Glass Bridge with KNO ₃ /KCl compatibility
Thermal Management	Ambient Temperature Only	Liquid Jacket (Constant Temperature Water Bath)
Temperature Measurement	Glass Thermometer (Sold Separately)	Precision Glass Thermometer (Included)
Magnetic Agitation	Compatible with standard magnetic stirrers	Compatible with standard magnetic stirrers
Sealing Gasket	Chemical-Resistant Fluorocarbon O-Ring	Chemical-Resistant Fluorocarbon O-Ring