

# Conventional Five Port Electrochemical Cell Borosilicate Glass Jacketed Three Electrode System

Item Number: PL-DJ17



## Introduction

Optimize your electrochemical research with this premium conventional five port electrochemical cell. Featuring a robust borosilicate glass body and customizable jacketed design, it ensures precise temperature control and superior gas sealing for advanced three electrode testing protocols.

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Application	Description	Key Benefit
<b>Electrocatalysis Evaluation</b>	Testing catalyst performance for oxygen reduction, hydrogen evolution, and carbon dioxide reduction reactions under controlled atmospheres.	Dual-phase gas purging ensures complete removal of oxygen, preventing interference with catalytic reaction pathways.
<b>Corrosion &amp; Tafel Analysis</b>	Monitoring metal and alloy degradation rates in aggressive acidic, alkaline, or saline environments.	High-chemical-resistance borosilicate glass tolerates harsh corrosive electrolytes without leaching contaminants.
<b>Energy Storage R&amp;D</b>	Characterizing active materials for lithium-ion, sodium-ion, and flow batteries, as well as supercapacitors.	The jacketed cell option allows precise thermal stabilization to simulate real-world battery operating conditions.
<b>Electrochemical Sensors</b>	Developing and calibrating highly sensitive chemical and biochemical sensors in aqueous and non-aqueous solutions.	The integrated salt bridge minimizes solution resistance, enabling precise baseline current resolution and detection limits.
<b>Synthesis &amp; Electrosynthesis</b>	Conducting small-scale organic or inorganic synthesis under controlled current or potential regimes.	Flexible five-port lid allows simultaneous integration of auxiliary reagents, purge lines, and multiple electrodes.
<b>Analytical Voltammetry</b>	Performing cyclic voltammetry, differential pulse voltammetry, and square wave voltammetry for fundamental research.	Extremely stable physical setup prevents mechanical vibrations and drift, ensuring reproducible quantitative peaks.

Feature / Specification	Single-Wall Variant (PL-DJ17-S)	Jacketed Double-Wall Variant (PL-DJ17-D)
<b>Model Reference</b>	PL-DJ17-S	PL-DJ17-D
<b>Cell Body Material</b>	High-Purity Borosilicate Glass	High-Purity Borosilicate Glass with Outer Jacketed Chamber
<b>Standard Volume Range</b>	5 mL to 500 mL (Custom capacities available upon request)	5 mL to 500 mL (Custom capacities available upon request)
<b>Low-Volume Base Shape</b>	Pointed-bottom (Conical V-shape) for 5-20 mL sizes	Pointed-bottom (Conical V-shape) for 5-20 mL sizes
<b>Lid Design &amp; Material</b>	5-Port Inverted Conical Lid, Solid PTFE	5-Port Inverted Conical Lid, Solid PTFE
<b>Primary Joint Sealing</b>	Ground-glass mouth mating with precision-machined PTFE cone	Ground-glass mouth mating with precision-machined PTFE cone
<b>Electrode Port Sealing</b>	Threaded compression screws tightening internal elastomeric O-rings	Threaded compression screws tightening internal elastomeric O-rings
<b>Matched Accessories</b>	F-type gas inlet/outlet tube, glass salt bridge, liquid seal, PTFE stoppers	F-type gas inlet/outlet tube, glass salt bridge, liquid seal, PTFE stoppers
<b>Thermal Management</b>	Ambient operation / External immersion bath	Circulating jacket for constant-temperature water bath connection

Feature / Specification	Single-Wall Variant (PL-DJ17-S)	Jacketed Double-Wall Variant (PL-DJ17-D)
<b>Electrode Compatibility</b>	Requires elongated (□□□ ) electrodes for correct immersion depth	Requires elongated (□□□ ) electrodes for correct immersion depth
<b>Thermometer Integration</b>	Standard 5 ports (thermometer requires sacrificing one standard port)	Expandable to 6 ports to house a dedicated thermometer probe
<b>Electrode Size Limit</b>	Designed for standard-sized electrodes. Platinum plates > 20x20 mm must be curved to fit, or opt for inline type.	Designed for standard-sized electrodes. Platinum plates > 20x20 mm must be curved to fit, or opt for inline type.