DATASHEET

XRD In-Situ Cell for Battery Characterization | Kapton Window

In-situ XRD electrochemical cell with Kapton window for real-time battery material analysis. Single and double-window configurations. Compatible with standard diffractometers.

APPLICATION

The Kapton window is a precision optical component. Each cell ships wrapped in bubble film inside a sealed bag. Do not touch or wipe the window surface.

KEY SPECS

- Window material: Kapton polyimide film
- Body material: Stainless steel
- Configurations: Single-window / dual-window
- Optical mode: Reflection (single) / transmission (dual)

1. Specifications

Window material	Kapton polyimide film
Body material	Stainless steel
Configurations	Single-window / dual-window
Optical mode	Reflection (single) / transmission (dual)
X-ray source	Cu-Kα and common sources
Technique	In-situ / operando XRD

2. Product Details

In-situ XRD cells allow real-time observation of structural changes in battery electrode materials during charge/discharge cycling. Our cell features a Kapton polyimide window that transmits X-rays while maintaining electrochemical integrity. Essential for studying phase transitions, lattice parameter changes, and crystallographic evolution in battery materials research.

In-situ XRD electrochemical cell with stainless steel body and polyimide (Kapton) film X-ray window. Positive-window version (single-sided) for reflection mode (Bragg-Brentano geometry); dual-window version (double-sided) for transmission mode. Kapton window film offers low absorption for Cu-Kα and other common X-ray sources. Synchronized diffraction and electrochemical data acquisition via potentiostat. For operando in-situ characterization of crystal structure evolution during battery charge/discharge, enabling studies of phase transitions, intercalation/de-intercalation mechanisms, and structural relaxation.

Related Guide: XRD In-Situ Cell Setup Guide

3. Order / Quote

Model	Pack Size	Availability
XRD-DUAL-1	1 complete cell per unit, bubble wrapped	In stock (Amazon / US warehouse)
XRD-POS-1	1 complete cell per unit, bubble wrapped	In stock (Amazon / US warehouse)

Current pricing and ordering: labcorematerials.com/products/xrd-in-situ-cell/

4. Shipping & Compliance

- Ships as empty hardware. No electrolyte, no lithium. Not classified as dangerous goods.

Contact

business@labcorematerials.com
www.labcorematerials.com/products/xrd-in-situ-cell/