HIOKI Powder Impedance Measurement System

All-in-One Solution for **Solid-State Batteries** and **Dry Processes**

Simultaneously measure **Impedance, Thickness, and Pressure**

Accurate Analysis
Calculate **bulk density** and **ionic conductivity** with precision

All-In-One Glove Box Operation
From loading to pressing and measurement, all tasks completed safely inside.

Enhanced Safety
Prevents hydrogen sulfide gas leakage and preserves material integrity.

Time-Saving Efficiency
No sample removal required: Streamline the entire process

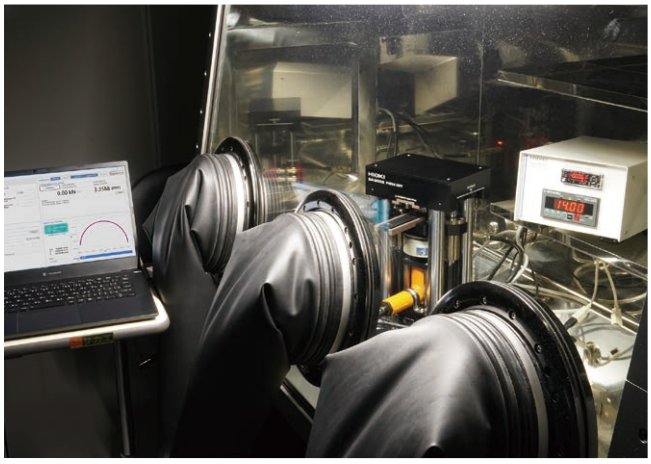
Optimized Testing
Measure multiple conditions on a single sample continuously

Wide frequency range
4 Hz to 5 MHz for better analysis

Automatic Calculations
Easily calculate total resistance (R) with Nyquist plot fitting.

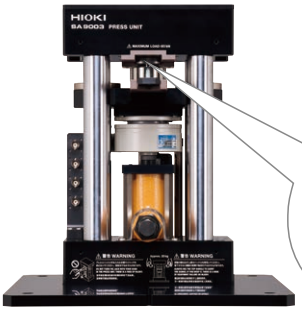
Outputs Electrical & Physical Parameters
Including conductivity, resistivity, bulk density, packing density, and porosity.

Graphing Capabilities
Visualize results with built-in graphing functions for in-depth analysis.



System Configuration

Basic set


SA9003 Press unit


SA2653
Measurement software


SA9004-01
Test fixture

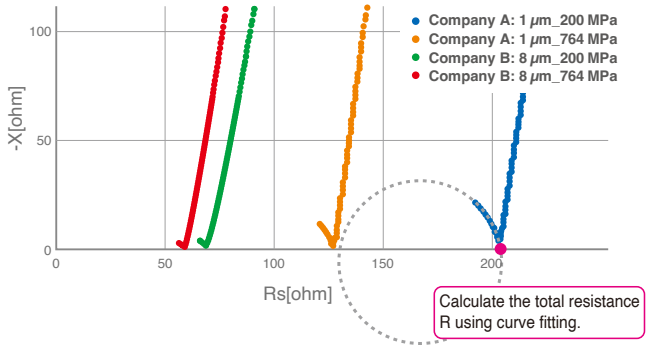

SA2654 Sensor unit


SA9005 Mold release unit

Measuring instrument


Impedance analyzer IM3570
(Measurement frequency range: 4 Hz to 5 MHz)
Connection cable: L2280-01

Real data: Measuring Differences Between Manufactureres and Grain Sizes For Sulfide-Based Solid Electrolyes



- Measurement samples
  - Li_6PS_5Cl argyrodite
  - Manufacturer (particle size): Company A (1 μm), Company B (8 μm)
  - Mass: 200 mg
- Measurement conditions
  - Measurement frequency: 4 Hz to 5 MHz
  - Signal level: 0.1 V (constant voltage)
  - Electrode diameter: ϕ10 mm

- **When the press pressure increases, the overall resistance R decreases.**
- **Differences between sample manufacturers and grain sizes can be identified.**