

Reusable Gasket Sealed Electrolyte Cell Metal Fuel Cell Reactor

Item Number: BE06

Introduction



Reusable gasket sealed electrolyte cell and metal fuel cell reactor for transparent zinc air testing, external electrolyte circulation, oxygen experiments, reduced passivation, minimized concentration polarization, and reliable battery research across laboratories and advanced materials programs with selectable flow rates and storage capacities

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Application	Description	Key Benefit
Zinc Air Battery Testing	Evaluate zinc-air cell behavior using a transparent, sealed mold with controlled electrolyte circulation and defined cathode reaction areas.	Supports repeatable comparison of reaction performance while helping reduce ion depletion and electrode passivation effects.
Metal Fuel Cell Reactor Research	Use the unit as a compact reactor for investigating electrochemical reactions involving metallic fuel electrodes and circulating electrolyte.	Provides a practical laboratory platform with selectable active areas and external fluid management.
High Current Charge Discharge Studies	Circulate electrolyte during demanding charge and discharge experiments where concentration gradients may affect cell behavior.	Helps reduce concentration polarization and improves control of mass transport during high-current operation.
Pure Oxygen Electrochemical Experiments	Connect laboratory gas lines through the available 6, 8, or 10 mm tube fittings for oxygen-fed test protocols.	Enables controlled gas supply configurations for oxygen-related zinc-air and fuel cell research.
Electrolyte Circulation and Passivation Studies	Investigate how continuous electrolyte replacement influences consumed ions, negative-electrode passivation, and reaction stability.	Allows researchers to vary pump flow and storage capacity while monitoring electrochemical response.
Battery and Advanced Materials Laboratories	Integrate the equipment into academic, industrial, and materials research programs focused on electrochemical conversion and metal electrodes.	Combines compact dimensions, reusable construction, and several reaction-area options in one laboratory test format.

Parameter	Specification	Notes
Product identifier	BE06	Site-facing identifier for this product
Product type	Reusable gasket-sealed electrolyte cell and transparent zinc-air testing mold	Suitable for metal fuel cell reactor research
Mold material	Organic glass	Transparent cell body
Width x height	7*6 cm	Compact laboratory format
Positive and negative electrode distance	1.4 cm	Defined spacing between electrodes
Gas tube connector	6 / 8 / 10 mm	Can support pure oxygen experiments
External circulation pump flow rate option 1	3~10 ml/min	External pump configuration
External circulation pump flow rate option 2	20~65 ml/min	External pump configuration
Available reaction areas	1 / 2 / 3 / 4 / 4.5 cm ²	Selectable configuration options
Electrolyte storage bottle capacity	100 / 250 / 500 ml	Maximum liquid capacity depends on selected bottle
Fastener material	304 stainless steel	Applies to screws and nuts

Site-facing variant	Reaction area	Configuration note
BE06 TR1	1 cm ²	Cathode reaction area is 1 cm ² ; the anode or zinc-electrode side has a 4.5 cm ² reaction area.
BE06 TR2	2 cm ²	Reaction area option referenced for the test mold.
BE06 TR3	3 cm ²	Reaction area option referenced for the test mold.
BE06 TR4	4 cm ²	Reaction area option referenced for the test mold.
BE06 TR4.5	4.5 cm ²	Reaction area option referenced for the test mold.