

Battery Overcharge Explosion Proof Test Box For Consumer Cells

Item Number: DA01



Introduction

Battery overcharge explosion proof test box protects personnel during charge discharge testing with steel construction observation windows ventilation lighting mechanical pressure relief and safe access for consumer cells and controlled laboratory workflows

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Application	Description	Key Benefit
Consumer Battery Safety Testing	Evaluate mobile phone batteries, coin cells, power bank batteries, and other consumer battery formats during controlled overcharge or over-discharge procedures.	Creates a dedicated physical barrier between test samples and laboratory personnel.
18650 Cell Evaluation	Conduct individual 18650 cell charging, discharging, abuse, or abnormal-condition tests using the internal chamber and side testing port.	Supports safer integration with external battery cyclers and measurement equipment.
Portable Electronics Battery Development	Use during early-stage safety verification of batteries intended for handheld electronics and compact rechargeable devices.	Enables visual monitoring while reducing the need to open the enclosure during testing.
Battery Quality Control	Provide a separate test enclosure for incoming inspection, production verification, failure analysis, or sample qualification.	Improves consistency in recurring safety test procedures and helps isolate abnormal samples.
University and Academic Research	Support battery science, electrochemistry, materials research, and student laboratory testing involving small consumer cells.	Offers a practical safety enclosure for shared research environments and teaching laboratories.
Battery Failure Analysis	Examine smoke generation, abnormal heating, combustion, or other failure behavior under controlled test conditions.	Combines observation, exhaust ventilation, and pressure relief in one dedicated unit.
General Materials Research	Protect test personnel during experiments involving small energy-storage devices or related materials that may produce smoke or pressure.	Extends the usefulness of the enclosure beyond routine battery qualification work.

Parameter	Specification
Product Item Number	DA01
Intended Use	Battery overcharge and over-discharge testing to help prevent injury to personnel caused by battery explosion or combustion
Suitable Battery Types	Consumer batteries, including mobile phone batteries, coin cells, power bank batteries, AA and AAA disposable batteries, and individual 18650 cells
Enclosure Structure	One small enclosure divided into upper and lower sections
Inner Chamber Dimensions	W500 × D500 × H500 mm
Inner Chamber Material	1.5 mm thick 304 stainless steel plate throughout the inner chamber
Outer Cabinet Dimensions	W700 × D700 × H1600 mm, subject to final design dimensions
Outer Cabinet Material	1.2 mm cold-rolled steel plate with high-temperature powder coating
Door Configuration	Single-panel door with one viewing window, flush recessed handle, SUS 304 rear hinge components, strong hinges, and explosion-resistant lock

Parameter	Specification
Explosion-Resistant Chains	Two $\phi 10$ mm explosion-resistant chains installed on each side of the door
Observation Window	Two explosion-resistant glass panels for viewing internal battery test conditions
Internal Lighting	One high-brightness energy-saving LED light installed at the top of the cabinet
Testing Port	One $\phi 50$ mm testing port on the left side of the cabinet, supplied with silicone plug and stainless steel cover
Insulation Method	Marble plate installed across the bottom of the inner test chamber to help prevent external battery short circuits
Exhaust System	High-power exhaust fan installed at the rear of the cabinet for discharging smoke outside the enclosure when smoke is generated
Control Panel	Controls the internal exhaust fan and lighting
Casters	Four sets of adjustable fixed movable casters for equipment movement and positioning
Electrical Supply	AC 220 V, 50 Hz, single phase
Rated Power	0.2 kW
Pressure Relief	Mechanical pressure relief opening installed at the rear