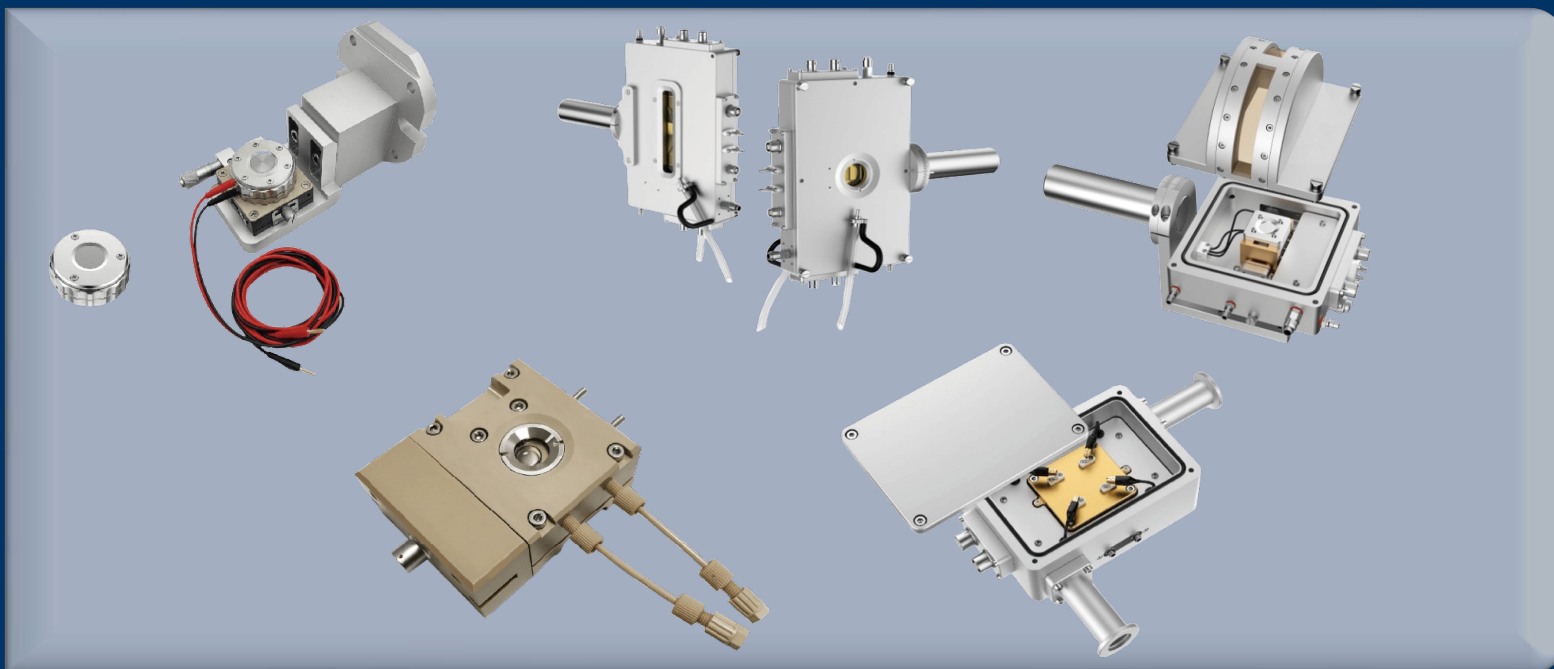


# Special Applications

## CellInSitu ThermoStage

Battery temperature change experimental equipment

- Wide temperature range control
- High-precision temperature control
- In-situ testing function
- Flexible environmental control



One Platform Many Possibilities

Contact Us [sales@venuslabtech.com](mailto:sales@venuslabtech.com)

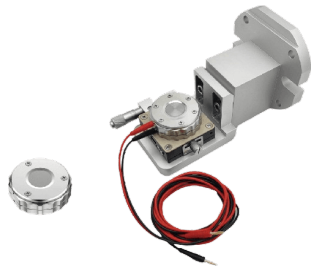
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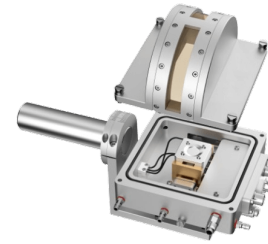
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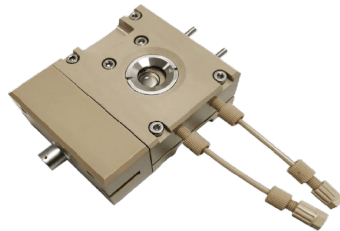
VLS-316L



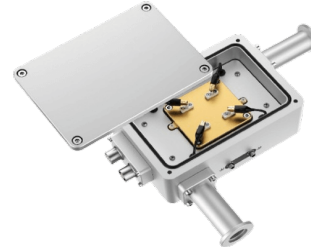
VLS-100-100PB



VLS-100-100BB



VLS-60-80BE



VLS-25-120BB

## Overview

### Introduction to CellInSitu ThermoStage :

Used for in-situ testing during the charging and discharging processes of lithium batteries, supporting various analytical methods such as X-ray diffraction (XRD), Raman spectroscopy/ microscopic observation, etc. The temperature range covers -100 to 100 (some models can reach -190 to 600 ), with a temperature stability of  $\pm 0.1$  . It supports XZ direction adjustment, features quick assembly/disassembly and high repeatable sealing, significantly improving experimental efficiency. Suitable for testing needs of different types of batteries such as button batteries and pouch batteries.

## Specifications

### Same parameters

Parameter	Description
Temperature control function	All models have heating and cooling capabilities with wide temperature range control
Temperature stability	High stability of $\pm 0.1$ specified for some models
Temperature control rate	Maximum heating/cooling rate up to 10 /min (for some models)
Battery type compatibility	Compatible with various battery types including lithium batteries and button batteries
Sample stage material	Corrosion-resistant metals (316L, silver, copper) used for sample stages
Optical observation support	Support for reflection/transmission optical paths with windows (beryllium or Kapton film)
Experimental environment control	Testing possible under atmospheric conditions
Structural design	Compact design for easy integration with various analytical equipment

## Application

- Battery temperature change experimental equipment
- Wide temperature range control
- High-precision temperature control
- In-situ testing function
- Flexible environmental control



## Service & Support

We are dedicated to delivering exceptional optoelectronic solutions to every client. From precision manufacturing and secure delivery to full-lifecycle technical support, we are here to ensure a seamless and reliable experience at every step.

### 1. Warranty Policy

#### Quality First, Worry-Free Operation

**Warranty Period:** We offer a **two-year** warranty service for all of our core optoelectronic products, effective from the date of shipment.

**Coverage:** We provide free repair or replacement services for malfunctions caused by material defects or workmanship errors under normal operating conditions.

**Rapid Response:** Upon receiving a warranty claim, we guarantee to initiate the assessment process within **24 hours** to minimize your equipment downtime.

### 2. Technical Support

#### Expert Team, Full-Process Guidance

**Technical Consultation:** Our team of senior optical engineers provides **24/7 online support** to assist with installation, commissioning, optical path alignment, and parameter optimization.

**Scheduled Maintenance:** We offer full-lifecycle maintenance recommendations, including firmware upgrades, optical component cleaning guidelines, and precision calibration services.

**Training Services:** We provide customized remote or on-site operational and safety training to ensure your team can operate the equipment efficiently and safely.

### 3. Logistics & Delivery

#### Precision Packaging, Global Reach

**Professional Packaging:** Given the fragile nature of optical instruments, we utilize industrial-grade shockproof, anti-static, and moisture-proof vacuum packaging to ensure zero damage during transit.

**Logistics Partners:** We partner with top-tier global logistics providers (**DHL / FedEx / UPS / SF Express**) to offer reliable shipping with real-time tracking.

**Shipping Insurance:** All shipments are fully insured to eliminate logistics risks.

### 4. Compliance & Certification


#### Strict Standards, Total Compliance

**Quality Certification:** Our manufacturing process is **ISO 9001 certified**, and our products comply with international standards such as **CE and RoHS**.

**Export Compliance:** "Committed to environmental responsibility, all our products comply with **RoHS 2.0 and REACH standards**, ensuring safety and global compliance."

## Explore Series

Model	Net Weight	External Dimensions	Sample Stage	Temperature Range
VLS-316L	0.8kg	54mm x 19.2mm	316L	-
VLS-100-100PB	2.1kg	126mm x 205mm x 32mm	Silver; 75mm x 85mm	-100°C ~ 100°C
VLS-100-100BB	3kg	120mm x 120mm x 97.5mm	Copper; 30mm x 30mm	-100°C ~ 100°C
VLS-60-80BE	0.6kg	92.5mm x 75mm x 38mm	Suitable for lithium batteries	-60°C ~ 80°C
VLS-25-120BB	1.2kg	130mm x 90mm x 54.5mm	Suitable for button batteries	-25°C ~ 120°C

 Get in touch with our team to explore configurations, request a quote, or learn more about customized solutions tailored to your needs.

Let us help you move science forward—faster and smarter.

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