VENUSLAB
OPTOELECTRONICS

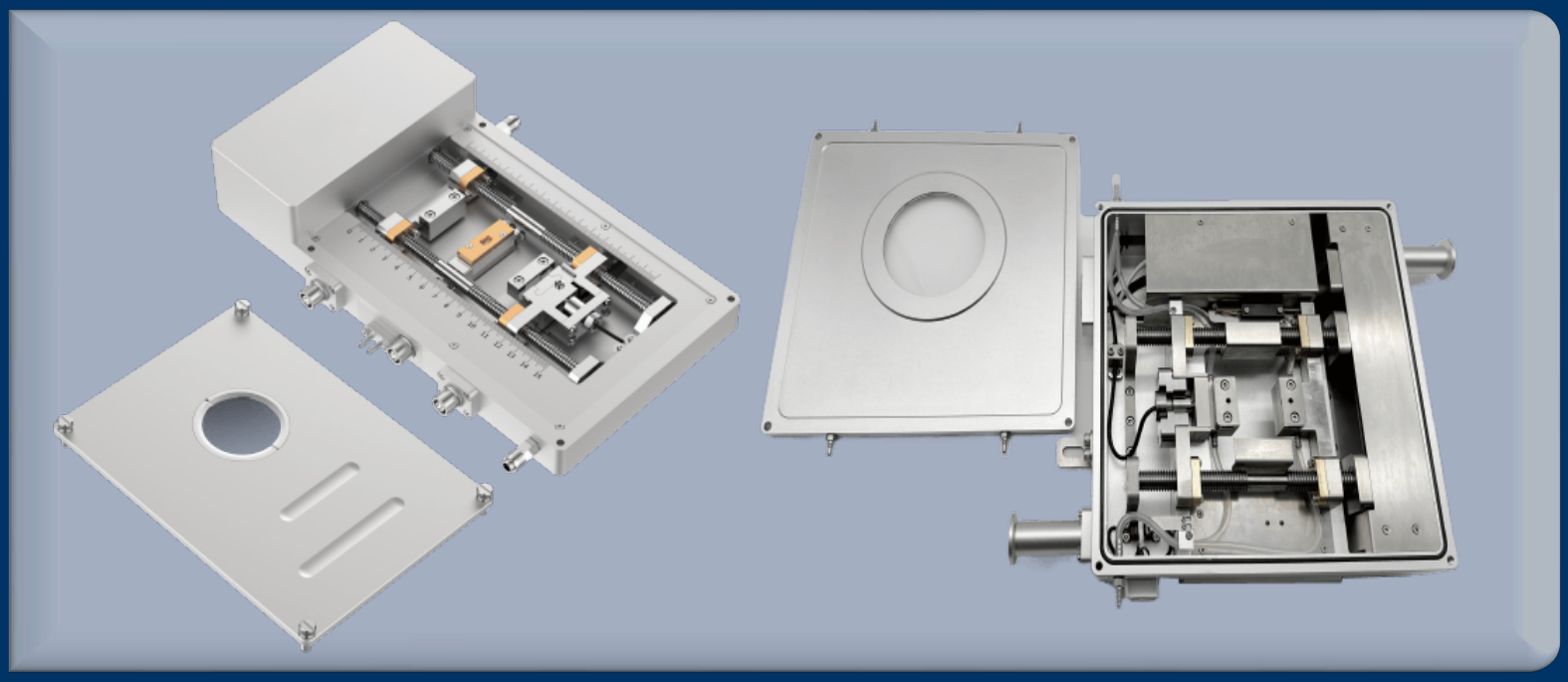
Precision
Meets
Simplicity

Mechanical

Tensile Stage

Material mechanics-microstructure synergy tester

- Multimodal mechanical testing
- Wide temperature range
- High-precision control
- In-situ observation capability
- Modular design



One Platform Many Possibilities

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Get a Quote

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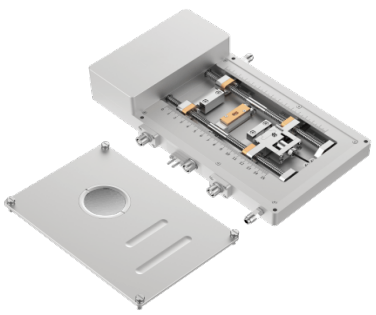
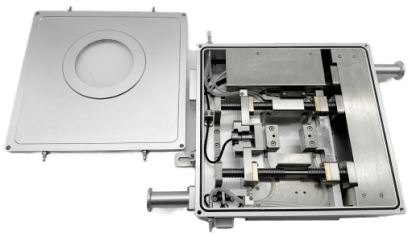
Tensile Stage



VLM-190-200



VLM-RT-1000V

Overview

Introduction to Tensile Stage:

It integrates multiple loading modes such as tension, compression, shear, and three-point bending, supports constant load, constant displacement rate, and programmed cyclic loading, and is compatible with temperature control modules to achieve in-situ mechanical characterization under variable temperature environments. The test type can be quickly switched by replacing dedicated fixtures, adapting to high-precision strain acquisition equipment such as DIC and video extensometers; it can be installed on a scanning electron microscope without modifying the lens body and is compatible with EBSD mode, realizing synchronous observation of material microstructure and mechanical response. Different models have their own characteristics in terms of temperature range, load range, and applicable environment, which can meet diverse needs from low temperature to ultra-high temperature, and from laboratory to industrial testing.

Specifications

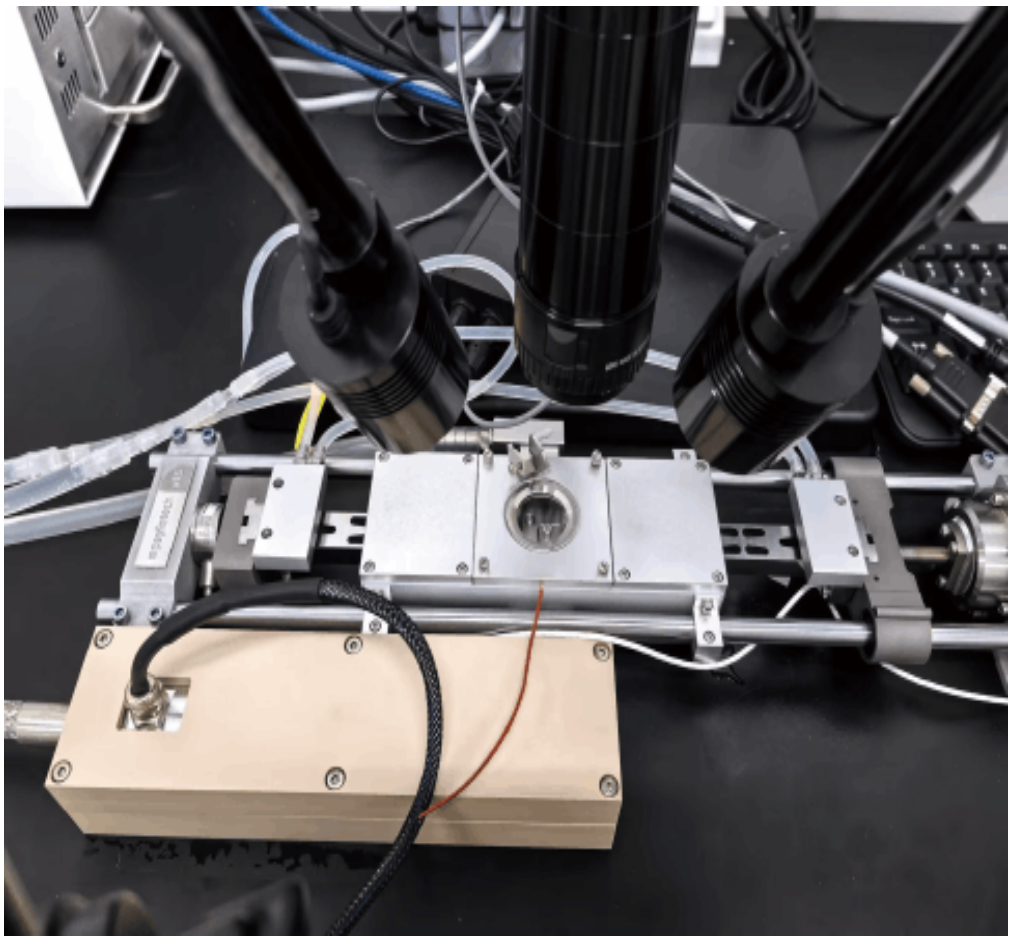
Same parameters

Parameter Name	Parameter Details
Purpose	All are specially designed for the collaborative evolution research of material mechanics and microstructure.
Loading Modes	All support constant load (force control), constant displacement rate (displacement control), and programmed cyclic loading modes.
Test Mode Switching	All can switch testing modes such as tension, compression, shear, and bending by replacing special fixtures.
Temperature Control Related	All have temperature control functions (some are optional). The temperature stability is ±0. 1℃ for all. Temperature control is achieved through temperature controllers, and the communication interfaces of the temperature controllers are all network ports.
Mechanical Measurement Accuracy	The measurement accuracy of tensile force is 0.5%FS for all.
Configuration Components	The basic configurations all include the platform, temperature controller, mechanical controller, and circulating water machine (there are differences in liquid nitrogen tanks, refrigeration controllers, etc. for some models). There are also optional components, such as adapter plates, customized circulating water machines, and customized temperature control software.

Tensile Stage

Application

- **Metals:** Research on phase transformation and crack propagation.
- **Polymers:** Temperature-dependent mechanical testing.
- **Semiconductors:** Thermomechanical fatigue analysis.
- **Composites:** Interfacial strength testing.



Serivce & 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 orworkmanship 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

Modelet Weight	Net Weight	Overall Dimensions	Sample Stage	Temperature Range
VLM-190-200	3.2kg	130mm×75mm×34mm	Copper, 25mm×25mm	- 20°C - 200°C
VLM-RT-1000V	8.2kg	200mm×75mm×74mm	Ceramic, diameter Φ10mm	RT - 1000°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 moves cience forward—faster and smarter.