

Mechanical Tensile Stage

Precision testing equipment dedicated to research on the synergistic evolution of material mechanics - microstructure

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



One Platform Many Possibilities

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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.

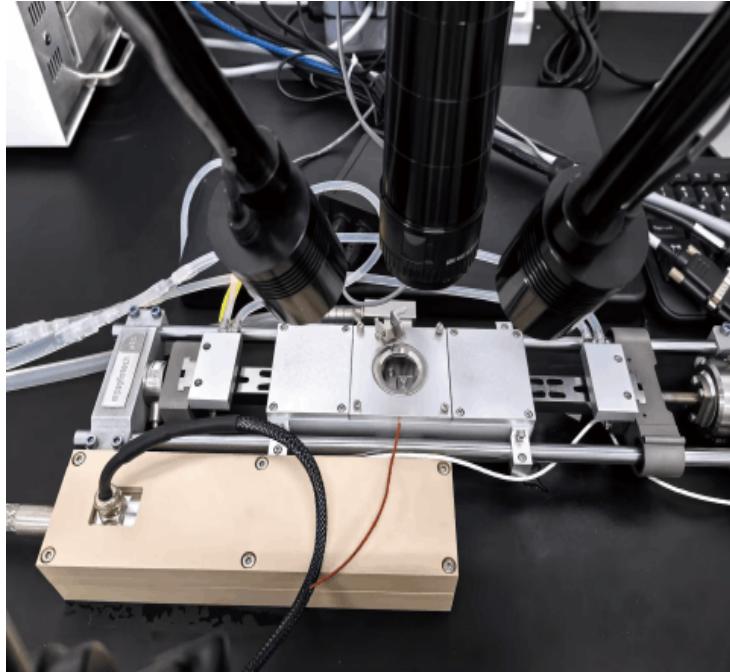
Specifications

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.

Application

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



Explore Series

Model 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 10mm	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.

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