ACS Material Equipment Series

InSitu Pro™

AECH400V-EM/AECH400V-EB

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I. Product Composition

1) Main Unit

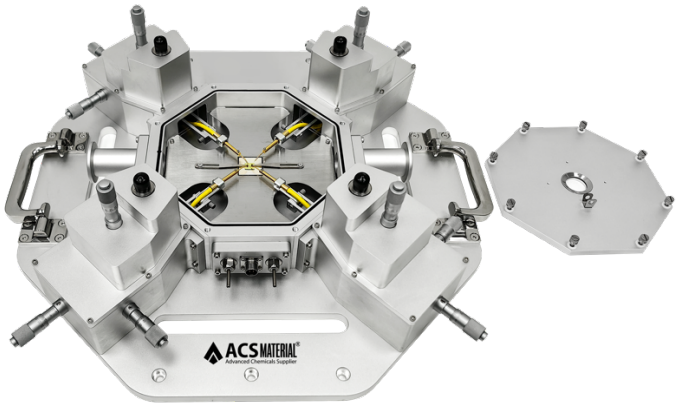

Photo of InSitu Pro™ AECH400V-EM

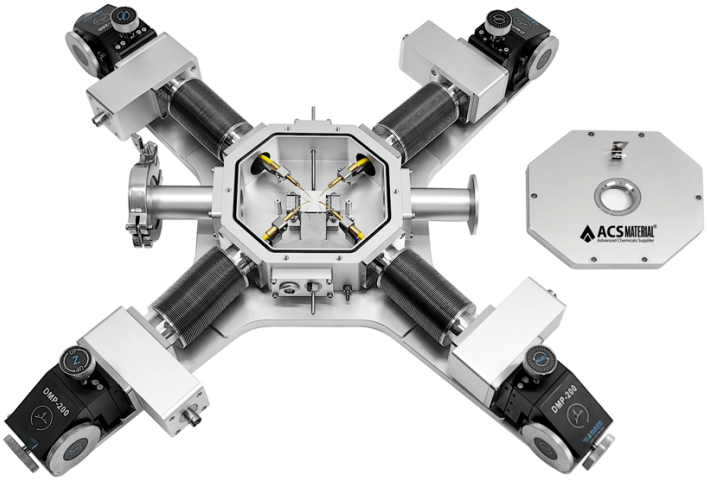

Photo of InSitu Pro™ AECH400V-EB

II. Product Features

InSitu Pro™ AECH400V-EM and AECH400V-EB are specifically designed for temperature-dependent electrical property testing of samples, enabling the characterization of how a material's electrical performance varies with temperature. Based on an optical thermal stage, this system

integrates an electrical module—including probes, displacement mechanisms, and electrical interfaces.

AECH400V-EM uses a built-in positioning stage, adjusted via a micrometer head.
AECH400V-EB uses an external positioning stage, connected via a bellows.

By adjusting the probe position, precise contact between the probe tip and any desired area on the sample surface can be achieved. Electrical signals are transmitted through the probe, signal wires, and interfaces to external measuring instruments (such as a source meter or digital multimeter) to collect relevant data, allowing for in-depth analysis of the material's electrical characteristics at different temperatures.
Depending on the probe holder design, the system is available in versions with internally adjustable probes, externally adjustable probes, and electrically controlled adjustable probes.
This product series features ultra-wide-range precision temperature control. Based on the target temperature and specific application requirements, a variety of advanced temperature control solutions are available, including liquid helium cooling, liquid nitrogen cooling, thermoelectric cooling, resistive heating, infrared heating, and laser heating—providing powerful support for complex temperature variation experiments.

Compatible Instruments

The system is designed to integrate with a wide range of optical and electrical instruments.

Software Integration

Multi-language SDKs (e.g., LabVIEW, C#) are available to enable efficient and customized system integration.

III. Product Specifications

InSitu Pro™ External Adjustable Probe Stage		
Model #	AECH400V-EM	AECH400V-EB

SKU#	EIEVCH4M	EIEVCH4B
Heating/ Cooling Method	Liquid nitrogen cooling, Resistive heating	
Temperature Range	-190° C~400° C	
Temperature Stability	±0.1℃	
Temperature Control Rate	Maximum heating rate: 150 °C/min; Maximum cooling rate: 40 °C/min	
Sample Stage	Silver; 23 x 23 mm	
Optical Path	Reflective	
Top Window Size	ϕ25 x 1 mm	
Window Material	quartz glass (transmission wavelength range: 220 nm–2500 nm), manually removable and replaceable	
Dist. From Top Window to Sample Stage Surface	25 mm	16.5 mm
Chamber Height	20.5 mm	15 mm

Probe	Tungsten carbide gold-plated coaxial probe x 4	
Probe Adjustment	XYZ axis travel: ±6mm	
Probe Interface	Triple Coaxial BNC x 4	
Sample Stage Surface Potential	Grounded / electrically floating sample stage	
Chamber	Vacuum	
Dimensions	436 x 436 x 132 mm	430 x 430 x 60 mm
New Weight	13.5kg	10.5kg
Basic Configuration	1 x main unit, 1 x temperature controller, 1 x cooling controller, 1 x liquid nitrogen tank, 1 x water circulation system, 1 x software	