



## ACS Material Equipment Series

### **InSitu Pro™**

### **AEPE120V-EM/AEPE1000V-EM**

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## I. Product Composition

### 1) Main Unit

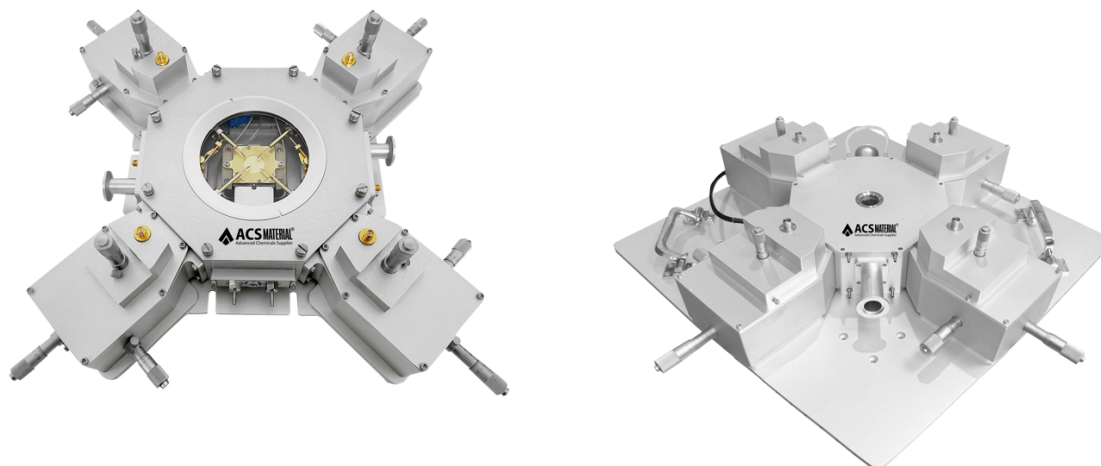


Photo of InSitu Pro™ AEPE120V-EM and AEPE1000V-EM

## II. Product Features

InSitu Pro™ AEPE120V-EM and AEPE1000V-EM 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 has a temperature range of  $-25^{\circ}\text{C}$  to  $120^{\circ}\text{C}$ , temperature stability  $\pm 0.1^{\circ}\text{C}$ , Peltier effect cooling, no liquid nitrogen consumption required.

AECH400V-EB has a temperature range: RT to  $1000^{\circ}\text{C}$ , temperature stability  $\pm 0.1^{\circ}\text{C}$ , capable of long-term stable operation at ultra-high temperatures.

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 #	AEPE120V-EM	AEPE1000V-EM
SKU#	EIEVPE1M	EIEVH10M
Heating/ Cooling Method	TEC	Resistive Heating
Temperature Range	-25° C~120° C	RT~1000° C

Temperature Stability	±0.1°C	
Temperature Control Rate	Maximum heating/cooling rate: 30 °C/min	Maximum heating rate: 150 °C/min; Natural Cooling
Sample Stage	Copper; 40 x 40 mm	Ceramic; 20 x 20 mm
Optical Path	Reflective	
Top Window Size	φ100 x 3 mm	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	14 mm	33.5 mm
Chamber Height	11 mm	29.5 mm
Probe	Tungsten carbide gold-plated coaxial probe x 4	Tungsten-rhenium coaxial probe x 4
Probe Adjustment	XYZ axis travel ±6 mm	XYZ axis travel ±12.5 mm
Probe Interface	Triple Coaxial BNC x 4	

Sample Stage Surface Potential	Grounded / electrically floating sample stage	
Chamber	Vacuum	
Dimensions	374 x 375 x 66 mm	520 x 520 x 145 mm
New Weight	15kg	22kg
Basic Configuration	1 x main unit, 1 x temperature controller, 1 x water circulation system, 1 x software	

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