



ACS Material Equipment Series

InSitu Pro™

AEPE120/AEPE120V

- | | |
|------|------------------------|
| I. | Product Composition |
| II. | Product Features |
| III. | Product Specifications |

Contact Information:

ACS Material, LLC

Address: 959 E Walnut St., Suite 100

Pasadena, CA 91106, USA

Phone: (866) 227-0656

Fax: (781) 518-0284

E-Mail: contact@acsmaterial.com

Revision: 071525

I. Product Composition

1) Main Unit

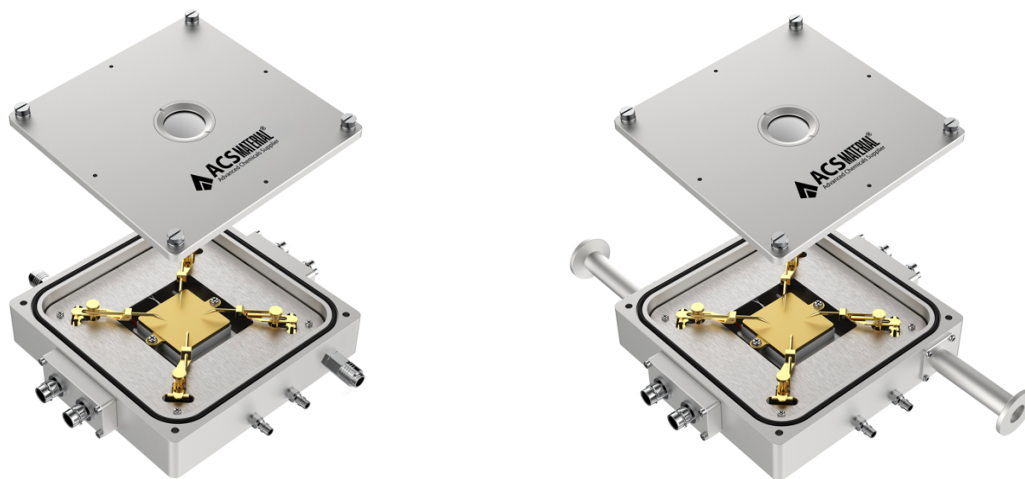


Photo of InSitu Pro™ AEPE120 and AEPE120V

II. Product Features

InSitu Pro™ AEPE120 and AEPE120V 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.

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™ Electrical Heating and Cooling Stage		
Model #	AEPE120	AEPE120V
SKU#	EIEPE120	EIEPE12V
Heating/ Cooling Method	TEC	
Temperature Range	-25° C ~ 120° C	-25° C~120° C
Temperature Stability	±0.1°C	
Temperature Control Rate	Maximum heating rate: 30 °C/min; Maximum cooling rate: 30 °C/min	
Sample Stage	Copper; 40 x 40 mm	
Optical Path	Reflection/Transmission (φ2 mm light-transmitting hole)	

Top Window Size	$\phi 25 \times 1 \text{ mm}$	
Bottom Window Size	$\phi 10 \times 1 \text{ mm}$ (optional for transmission optical path)	
Window Material	quartz glass (transmission wavelength range: 220 nm–2500 nm), manually removable and replaceable	
Window Defogging	Equipped with a gas-blowing bracket	
Dist. From Top Window to Sample Stage Surface	6 mm	
Chamber Height	5 mm	
Probe	Fixed probe holders x 4 + gold-plated copper probes x 4	
Probe Interface	BNC x 4	
Sample Stage Surface Potential	Grounded / electrically floating sample stage	
Chamber	Air	Vacuum
Dimensions	91 x 97 x 24 mm	91 x 97 x 24 (Excluding bellows)

New Weight	0.5kg	0.6kg
Basic Configuration	1 x main unit, 1 x temperature controller, 1 x water circulation system, 1 x software	

Disclaimer: ACS Material, LLC believes that the information in this Technical Data Sheet is accurate and represents the best and most current information available to us. ACS Material makes no representations or warranties either express or implied, regarding the suitability of the material for any purpose or the accuracy of the information contained within this document. Accordingly, ACS Material will not be responsible for damages resulting from use of or reliance upon this information.