

# HCP-400-V-PM

PROBE STATION UNDER CONTROLLED ENVIRONMENT



## HIGHLIGHTS

- ▶ Compact system
- ▶ Under vacuum
- ▶ Software control
- ▶ Quick installation

## PARAMETERS

- ▶ Temperature range -196°C to 400°C
- ▶ Vacuum capability up to 1 mTorr
- ▶ Measure I/V
- ▶ Sample size 10-30 mm

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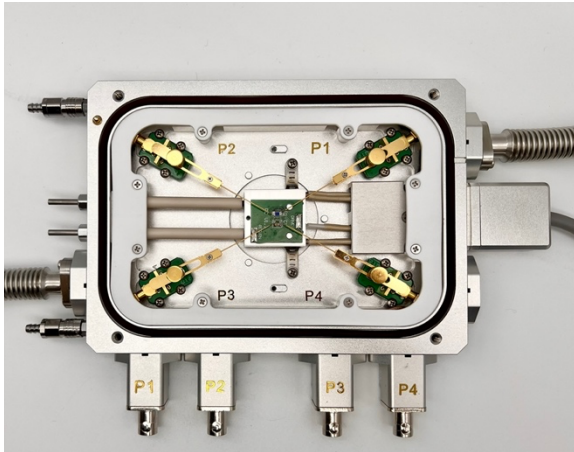
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The **HCP-400-V-PM** Mini Probing Stage is designed for applications where both thermal and low-pressure atmospheric control are critical. Samples are loaded onto the high-uniformity silver heating block and held in place with optional sample clips. Manually positioned probers can then be placed onto sample pads larger than 100 microns. The vacuum tight chamber supports vacuum pressures as low as to 1 mTorr; great for preventing oxidation, condensation, and icing. The sample area is large enough to accommodate a variety of samples, including wafers from 10mm to 30mm.

## Key Features



### System Integration

Integrates with modern instruments thanks to small footprint tabletop design; low profile and low working distance for optical instrument compatibility.

### Wide Temperature Range

Heating up to 400°C (Ambient or Vacuum), cooling down to -196°C with optional LN2-Kit cooling system.

### Rapid Heating Rates

+150°C per minute @ 100°C max heating rate.

### Accuracy and Stability

A pt100 platinum RTD sensor is embedded into the sample heating and cooling block to guarantee high temperature accuracy and stability. The RTD sensor is calibrated to measure the surface temperature of the sample heating block – giving the closest and most accurate reading of the sample possible.

### Vacuum Tight Chamber

Allows for vacuum pressures as low as 1 mTorr to prevent oxidation, condensation, and icing. Easily connects to vacuum pump via either of 2 KF-16 vacuum ports. Multiple ports are included for mounting vacuum gauge to high-side of chamber without the need for Tee connections.

### Additional Features

Includes standalone **mK2000** temperature controller.



## Technical Specifications

### Thermal Specifications

Temperature Control	mK2000 with programmable precision LVDC switching PID method
Thermal Block	Silver
Temperature Minimum	-196°C (with optional liquid N2 cooling)
Temperature Maximum	+400°C (600°C non-vacuum option available)
Maximum Heating/ Cooling Rate	+150°C per min @ 100°C, -50°C per min @ 100°C
Minimum Heating/ Cooling Rate	±0.01°C per min
Temperature Resolution	0.01°C (RTD)
Temperature Stability	±0.05°C (>25°C), ±0.1°C (<25°C)
Software	Windows software to record and export temperature vs. time data

### Optical Specifications

Optical access	Reflection (custom transmission option available)
Optical windows	Removable and exchangeable windows permit full-spectrum transparency
Minimum objective working distance	8.5 mm
Top window	Ø38mm
Window defrost	Integrated external window defrost

### Structural Specifications

Sample area	Fits Ø10mm – Ø30mm wafers and devices (28mm x 30mm)
Chamber Height	6.3mm
Atmosphere control	Vacuum tight chamber rated to 1 mTorr
Frame cooling	Integrated frame cooling channels (optional chillers available)
Frame dimensions	180 x 130 x 27 mm

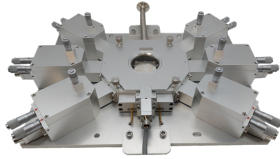
### Electrical Features

Electrical probes	Tungsten-rhenium DC probes
Probe positioning	Manually positioned probers for pads larger than 100µm
Connectors	Coaxial BNC (default), or triaxial BNC
Sample surface	Grounded (default), floating, or triaxial
Ferromagnetic properties	Ferro-magnetic components (non-ferromagnetic model available for Hall Effect measurement)

**Other products**



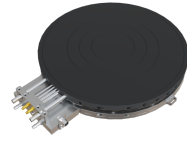
**MW-HCP-600-G-PM**



**MW-TP102-V-MPS**



**MW-HCC218S**



**MW-HCC30CR**

