

Instec's HCS602XY hot and cold stage is the ideal choice for thermal microscopy or other applications requiring optical access to the sample when an extremely wide temperature range is required. The standard 600°C upper limit can optionally be extended to 700°C and the addition of an LN2 cooling system allows temperatures down to -190°C to be achieved. The stage features silver heating and cooling block which provides faster heating and cooling rate and exceptional temperature uniformity. Naturally the stage also has the features our customers expect from an Instec stage such as a gas purge lid, removable dual pane windows, variable sample chamber height, integrated window defrost system, horizontal or vertical mounting, and included thermal control software. The inclusion of X-Y micropositioner as a standard feature makes the HCS602XY stage an ideal choice for Geological, Fluid Inclusion, Semiconductor, Photovoltaic, or other Materials Science applications.



## Features

- Programmable Precision Temperature Control from -190°C to 600°C
- High Temperature Range Hot and Cold Stage
- Controlled Ultra Fast Heating and Cooling Rate
- Large Viewing Aperture for Reflected Light
- Removable and Exchangeable Windows
- Dual Pane Windows for Better Thermal Isolation
- Integrated Aperture Window Defrost System
- Gas Purge Sample Chamber
- Inner Lid for Improved Sample Temperature Uniformity
- Easy Side Sample Loading with Standard Microscope Slides
- Vertical and Horizontal Mounting
- Optional Microscope Rotational Stage Mounting Accessories
- Integrated Precision X-Y Micropositioner for Sample Positioning
- Optional Higher Temperature Limit Available

## Technical Specifications

Temperature Range	-190°C to 600°C Optional higher temperature limit available Below ambient operation requires optional cooling accessory
Temperature Resolution	0.01°C with mK1000
Temperature Stability	±0.01°C at 100°C with mK1000
Minimum Heating and Cooling Rate	±0.1°C per hour
Maximum Heating Rate	+200°C per minute at 100°C
Maximum Cooling Rate	-130°C per minute at 100°C (when using LN2-P4)
Temperature Control Method	Switching PID
Temperature Control Sensor	100 Ω Platinum RTD
Minimum Objective Working Distance	5.3 mm (shorter working distance optional)
Minimum Condenser Working Distance	10.0 mm (shorter condenser distance optional)
Sample Area	35 mm x 35 mm
Chamber Height	2 mm with inner cover
Sample Viewing Aperture	1.3 mm for transmitted light (larger aperture optional)
X-Y Micropositioner (included)	10 μm resolution

## Ordering Information

Part Number	Description
HCS602XY-mK1000	HCS602XY, hot and cold stage with mK1000, 115V/230V, software included
HT-A+700C	Optional higher temperature limit to 700°C, for HCS602XY, HCS622, HCP622
SPO6-B-01	1.5 mm spacer set to increase sample chamber height, for HCS602XY
SP12-B-01	3.0 mm spacer set to increase sample chamber height, for HCS602XY

Accessories	Description
mK1000 Options	Please refer to the mK1000 Temperature Controller section for mK1000 controller options (e.g. IEEE-mK1000: IEEE 488 communication port)
LN2-SYS	Liquid nitrogen cooling accessory. Please refer to the LN2-SYS section for selections of liquid nitrogen cooling accessories
WPC3A/WPC3U	115V or 230V circulation water pump system for rapid sample chamber cooling to as low as 5° C
WP115F/WP230F	115V or 230V circulation water pump for frame cooling
MTR-SYS	Adaptor ring for microscope mounting. Contact Instec for microscope specific ring availability

## Physical Dimensions & Cross Section View

