

HCS412W Wide Aperture Hot & Cold Stage



Instec's HCS412W is a wide viewing aperture hot and cold stage evolved from the standard HCS402. While including almost all of the HCS402 features, such as the dual heating, the HCS412W features a large viewing aperture for transmitted light, and large incident angle for wide angle X-Ray and light scattering.

Features

- Programmable Precision Temperature Control from -60°C to 400°C
- Extra Large Viewing Aperture and Large Viewing Incident Angle
- Dual Heaters Located Above and Below the Sample Chamber for Superior Temperature Uniformity
- Controlled Fast Heating and Cooling Rate
- Removable and Exchangeable Windows
- Dual Pane Windows for Better Thermal Isolation
- Integrated Aperture Window Defrost System
- Variable Sample Chamber Height
- Gas Purge Sample Chamber
- Easy Side Sample Loading with Standard Microscope Slides
- Vertical and Horizontal Mounting
- Optional Microscope Rotational Stage Mounting Accessories
- Optional Precision X-Y Micropositioner for Sample Positioning
- Optional Higher Temperature Limit Available



Technical Specifications

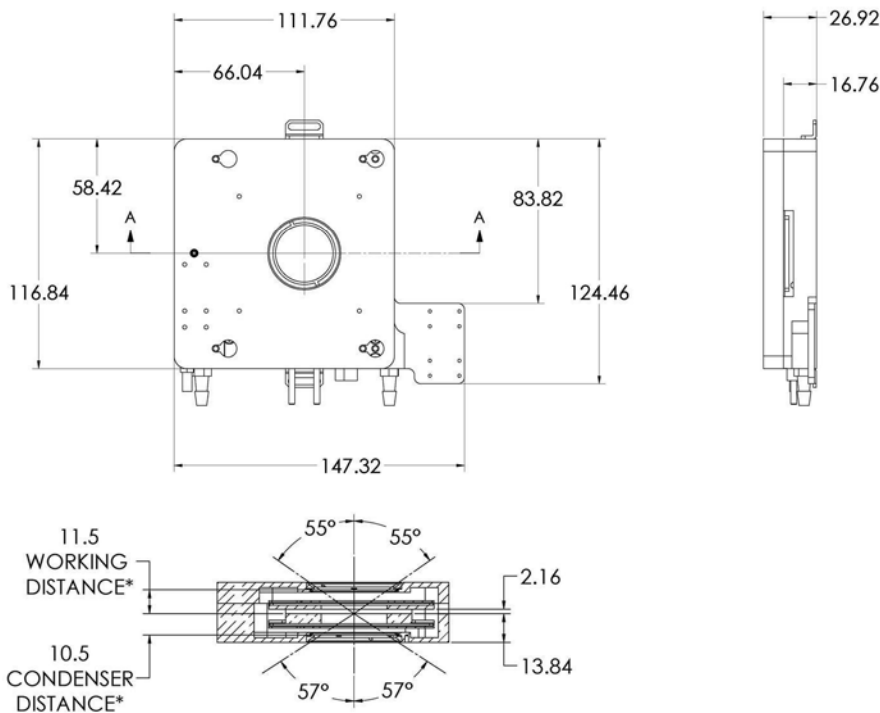
Temperature Range	-60°C to 400°C Optional higher temperature limit available Below ambient operation requires optional cooling accessory
Temperature Resolution	0.01°C with mK1000
Temperature Stability	±0.01°C at 100°C with mK1000
Minimum Heating and Cooling Rate	±0.1°C per hour
Maximum Heating Rate	+100°C per minute at 100°C
Maximum Cooling Rate	-50°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	11.5 mm (shorter working distance optional)
Minimum Condenser Working Distance	10.5 mm (shorter condenser distance optional)
Sample Area	38 mm x 50 mm
Chamber Height	2.0 mm (up to 12.5 mm when using optional spacers)
Sample Viewing Aperture	38.5 mm for transmitted light
X-Y Micropositioner (optional)	10 μm resolution

Ordering Information

Part Number	Description
HCS412W-mK1000	HCS412W, dual heater, hot and cold stage with mK1000, 115V/230V, software included
XY-A-01	Precision X-Y Micropositioner with sample holders and accessories, for HCS302, HCS402, HCS412W
MT-A-01	Mount adaptor for LCH-S2, LCH-S3, and LCH-S4, for use with X-Y Micropositioner
MT-A-02	Mount adaptor for LCH-S2, LCH-S3, and LCH-S4, for use without X-Y Micropositioner
SPO6-A-01	1.5 mm spacer set to increase sample chamber height, for HCS302, HCS402, HCS412W
SP12-A-01	3.0 mm spacer set to increase sample chamber height, for HCS302, HCS402, HCS412W

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



SECTION A-A

*DISTANCE IS CALCULATED WITH BOTH WINDOWS INSTALLED