

TS104 Large Area Microscope Thermal Stage



Instec's TS104 is a Thermo Electric Cooler (Peltier) based thermal stage that can cool down to -30°C without using liquid nitrogen or a circulation chiller. This is very convenient for performing long duration experiments at cold temperatures. It also simplifies the system set up and reduces operating costs. It features 101 mm x 101 mm large sample area, which is an ideal choice for inspecting LCD panels under microscopes.



Features

- Programmable Precision Temperature Control from -30°C to 90°C
- Peltier-Based Microscope Thermal Stage
- Accommodate Up To 101 mm x 101 mm Sample Size
- Gas Tight Sample Chamber
- Controlled Fast Heating and Cooling Rate
- Large Viewing Aperture
- 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
- Optional Higher Temperature Limit Available

Technical Specifications

Temperature Range	-30°C to 90°C Optional higher temperature limit available
Temperature Resolution	0.01°C with mK1000
Temperature Stability	±0.01°C at 37°C with mK1000
Minimum Heating and Cooling Rate	±0.1°C per hour
Maximum Heating Rate	+30°C per minute at 37°C
Maximum Cooling Rate	-30°C per minute at 37°C
Temperature Control Method	PID with Linear Variable DC
Temperature Control Sensor	100 Ω Platinum RTD
Minimum Objective Working Distance	6.4 mm (shorter working distance optional)
Minimum Condenser Working Distance	18.5 mm
Sample Area	101 mm x 101 mm
Chamber Height	2 mm
Sample Viewing Aperture	26.5 mm for reflected light 2, 5, 8, or 10 mm for transmitted light

Ordering Information

Part Number	Description
TS104-mK1000	TS104, thermal stage with mK1000, 115V/230V, WP115F or WP230F and software included
HT-A+120C	Optional higher temperature limit to 120 °C, for TS102, TS104, TC102, TC104, TP102, TP104
F2-C-01	Two sealed electric feed-through leads, can only be ordered with hot and cold stage/plate

Accessories	Description
mK1000 Options	Please refer to the mK1000 Temperature Controller section for mK1000 controller options (e.g. IEEE-mK1000: IEEE 488 communication port)
MTR-SYS	Adaptor ring for microscope mounting. Contact Instec for microscope specific ring availability

Physical Dimensions & Cross Section View

