

Heating & Cooling Sample Stage Kit

The Heating and Cooling Sample Stage Kit enables precise and extended temperature control beyond the ranges attainable with the environmental chamber provided with the DPN 5000 and NSCRIPTOR™ systems. The extended temperature range allows the user to increase the range of printable feature sizes for existing ink materials, enables printing of materials that might require specific deposition temperatures. The heating and cooling stage can also be used with biological inks, where temperature control may be needed to preserve material viability.

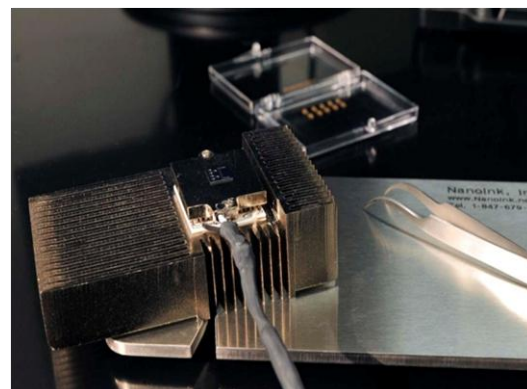


Figure 1: The Heating and Cooling Sample Stage Kit.

The Heating and Cooling Sample Stage replaces the standard sample stage and can be used with NanoInk's single pens, 1D pen arrays, and 2D pen arrays. The stage remains in the instrument during all system operations, allowing for rapid ink development. The sample is mounted onto a specially designed platform which is carefully heated or cooled with a Peltier device capable of reaching temperatures from 4°C to 80°C. Closed-loop PID thermal control provides temperature accuracy to within +/- 0.3°C of set point. After a brief sample equilibration period (< 10 minutes), the sample can be held at the desired temperature as long as the user desires. Additionally, a vacuum connection can be used to hold substrates on the sample stage. Low X, Y, and Z drift rates minimize tip/sample drift during DPN® patterning and imaging, providing reliable lithography and image acquisition.

Performance Specifications:

Operating range: 4 to 80°C

Temperature control: ± 0.3°C

Substrate vacuum operation: Available

Settling time: < 1 min (ambient to 50°C); ~ 10 min (ambient to 4° C)

Stabilization period before experimentation: 10 min

Dimensions of Heating & Cooling Sample Stage: 3.1 cm x 3.4 cm

Item Name: Kit, Heating & Cooling Sample Stage

Part #: DPN-0309-01

Compatible with the DPN 5000 System and NSCRIPTOR™ DPN System

Learn more about NanoInk products and services at www.nanoink.net. Or call us at 847-679-NANO (6266).