

## Cryostat I<sup>®</sup>

### Single-Stage Cryogenic Refrigerator Based on the Gifford-McMahon Principle

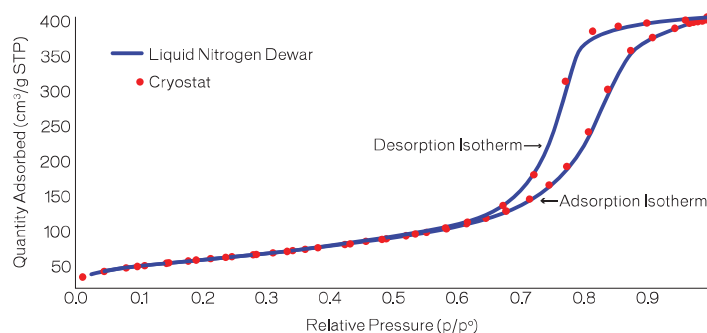
The Micromeritics Cryostat I is a closed-cycle cryocooler based on the Gifford-McMahon (GM) refrigeration principle. It uses helium gas from a helium compressor to generate cryogenic temperatures. The refrigeration effect of the GM cooler results from a series of thermodynamic processes acting on the helium gas that includes: charging and compression, displacement and heat exchange with the regenerator, expansion and heat absorption (cooling effect).

The Cryostat I eliminates the need for liquid nitrogen and can obtain temperatures below the 77 K of liquid nitrogen. The unit is mounted on the Micromeritics instrument with a specially designed fixture. The cold head of the device is positioned at the unit to maintain precise temperature control of the sample tubes. The Cryostat I's cold head is then connected to a floor mounted compressor.

**Available for the following Micromeritics Instrument:  
ASAP 2020Plus and 3Flex**

Temperature Range	25 to 350 K
Temperature Stability	±0.005 K
Nitrogen Reservoir	closed-cycle helium
Cool Down Time to Stated Minimum from Ambient	60 minutes

\*This product can be custom engineered to fit your specific temperature needs



## ISO Controller

### Sub-Ambient, Thermoelectric Cooled Dewar

Micromeritics' ISO Controller utilizes thermoelectric cooling based on the Peltier principle. The unit is designed to maintain a constant temperature between 0 °C and 80 °C when using CO<sub>2</sub>, N<sub>2</sub>, and other gases for adsorption analysis. The device rapidly cools and efficiently maintains temperature with minimal electrical current required.

The sample area will accommodate up to 3 sample tubes. Heat removal is uniform and accurate when the unit is used with an appropriate liquid (ambient water or liquid antifreeze).

The dewar section is placed on the instrument dewar elevator and then raised into position for analysis.

**Available for the following Micromeritics instruments:  
ASAP 2020, 2020 Plus, and 2460; TriStar II Plus; 3Flex**

Temperature Range	-5 °C to 75 °C (lab temp <27 °C)
Cooling Capacity	Approx. 80W at 0 °C, 120W at 25 °C
Minimum Controllable Resolution	0.1 °C
Temperature Stability	±0.1 °C



*"Trusted partner; Great customer service and knowledgeable technical support."*

Research Scientist, Global 500 Chemicals Company

Research on  
Micromeritics by



Dec 2014  
CF7-A15-D58