Sub-Ambient Temperature Control Devices

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Brochure

Accessories

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Overview

Controlling Temperature is a very important parameter for analysis and must be carefully considered. The precise control offered by the range of Micromeritics sub-ambient temperature control devices allows users to decide which tool will best provide the desired accuracy and performance in the scientific environment.

Link to: Sub-Ambient Brochure »

- Chiller Dewar »
- Refrigerated / Heating Circulators »
- CryoCooler II »
- Cryostat I »
- Iso Controller »

Features

Chiller Dewar

Liquid Recirculation System

Micromeritics' Chiller Dewar is a closed loop recirculating system that utilizes a high surface area copper coil to provide excellent heat transfer between the dewar and the recirculating liquids. Temperature control is provided through Fan external recirculating bath or chiller bath which are supplied as accessory items.
The Chiller Dewar is easily mounted to the system's elevator using the supplied clamping screw and bar set. The unit comes complete with all necessary fittings and tubing for connection to the recirculating bath. An external RTD is also provided which mounts inside the dewar. The RTD connects to the recirculating bath and ensures that precise temperature control is maintained over the course of the experiment. **Request A Quote »**

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

Temperature Range	-50 °C to 200 °C*
Temperature Stability	+/- 0.01 °C

*Temperature range and stability based on circulating bath performance and liquid media utilized

Refrigerated / Heating Circulators

FP50-ME - (Special Order)
These units provide high heating/cooling capacities to ensure rapid heat-up and cool-down times. With Active Cooling Control to +200 °C , FP models offer proportional cooling control to ensure energy-saving performance and reduce heat generation to the environment
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FP25-ME These units provide efficient heating/cooling. With Active Cooling Control to +200 °C , this model offers proportional cooling control to ensure energy-saving performance and reduce heat generation to the environment.
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Temperature Range	-50 °C to +200 °C*	Temperature Range	-28 °C to +200 °C
Temperature Control	PID, cascade	Temperature Control	PID, cascade
Temperature Stability	+/- 0.01 °C	Temperature Stability	±0.01 °C

CryoCooler II

Sub-Ambient Temperature Controller

Micromeritics' CryoCooler II accessory for our AutoChem series provides temperature control from -100 to +1100 °C. The device permits ramping temperatures at rates from 5 to 50 °C/minute, selectable in 1 °C increments. The CryoCooler II seamlessly transitions from sub-ambient to ambient operation. A source of LN2 is directly attached to an AutoChem furnace for rapid cooling and cycling of the furnace.
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Available for the following Micromeritics instruments:
AutoChem II Series 2950 and 2920

Temperature Range	-100 °C to 1100 °C*

Cryostat I

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.
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Available for the following Micromeritics Instrument:
ASAP 2020 Plus, 3Flex and the Particulate Systems' HPVA II

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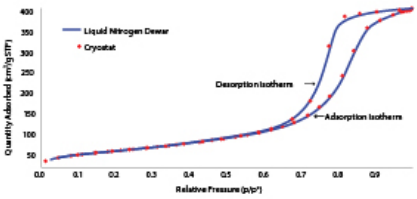

Temperature Range	-50 °C to +200 °C*
Temperature Stability	+/- 0.01 °C
Nitrogen Reservoir	closed-cycle helium
Cool Down time to Stated Minimum from Ambient	60 min.

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 CO2, N2, 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. **Request A Quote »**

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

Available for the following Micromeritics instruments:
ASAP 2020 Plus, ASAP 2460; TriStar II Plus; 3Flex and the Particulate Systems' HPVA II