

SPECIALIZED EQUIPMENT SPECIFICATIONS

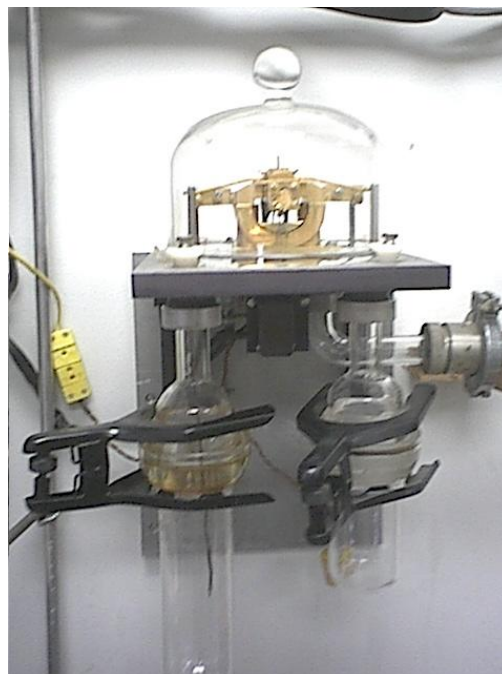
Fenn R&D Institute (FRDI)

Fenn College of Engineering, Cleveland State University

Name: Cahn®-1000 Microelectronic Balance (low pressure)
Description/Use: adsorption isotherms of non-corrosive gases and vapors, BET surface area
User fee: Call, Email
Fee basis: per isotherm, per sample
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(click for expertise)

DETAILED DESCRIPTION:

Microelectronic balance for weight measurements of samples such as polymers, microporous solids, metals, etc. in a controlled fluid (gas or vapor) environment. Uptake data (i.e. rate of weight change) is directly logged on a computer. The fluid environment is manually controlled. Nitrogen isotherm measurement at liquid nitrogen temperature leads to BET surface area (and many other methods for surface area) of solids including mesoporous, microporous and particles.



OPERATION:

The system is not automated. Trained graduate assistants or technicians perform the experiments. Experimental protocol can be adjusted to requirements.

SPECIFICATIONS:

Fluids: non-corrosive, non-condensing (at ambient temperature)

Pressure range: 10 μ mHg – 1 atm

Temperature range: 77K (liq. N₂), -20C – 400C

Capacity: up to 50 total sample

Weight range: 10 gm differential with \pm 0.001 gm accuracy