ALTAMIRA INSTRUMENTS

The First Name in Custom Reactor Systems

AMI-*micro* Series
Automated Micropore Analysis

Altamira is proud to introduce the **AMI-*micro*** series of sorption instruments designed for microporous characterization. The **AMI-*micro*** series of instruments is designed to determine specific surface area, pore size distribution, and pore volume in everything from carbon black to pigments to zeolites. The **AMI-*micro*** series can be adapted with multiple analysis ports for high-throughput sample testing.

The AMI-micro

The **AMI-*micro*** is a new and highly automated physisorption analyzer for micro and nanoporous materials. Perform sorption analysis with pore sizes ranging from 0.35 to 500nm in either one, two, or three stations. Each station in the **AMI-*micro*** manifold is equipped with four pressure transducers, three for analysis: 1000, 10, 1 (or 0.1) mmHg and an independent p_0 transducer.

Hardware and Operation

Each station in the **AMI-*micro*** has an independent dosing manifold with three pressure transducers: 1000, 10, and 1 (or 0.1) mmHg. Each of the stations also includes an in-situ degassing module to allow for treatment of the sample to 400°C. This in-situ degassing thus prevents any contamination during possible sample transfer. In addition, the **AMI-*micro*** 100 and **AMI-*micro*** 200 are built with two dedicated degassing stations.

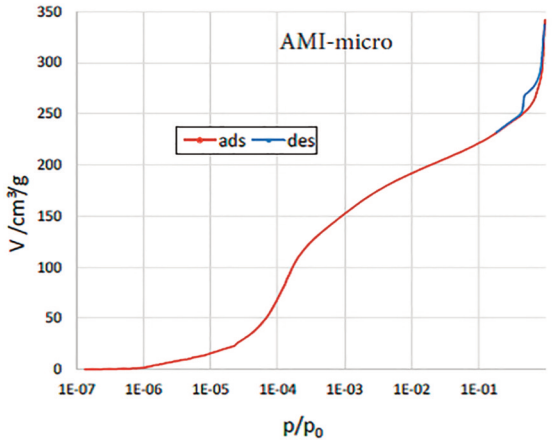
If multiple stations are selected, each station acts independently from the other. Thus, the instrument can start sorption experiments on different samples at the same time.
Through software control, the **AMI-*micro*** can automatically:

- Dose adsorbate
- Raise and lower the dewar
- Determine if equilibrium conditions are satisfied
- Plot the real-time physisorption isotherm
- Heat the sample for degassing
- Measure p_0 at each point with dedicated sensor
- Automatically correct for Free Space with He

Techniques and Reports

The **AMI-*micro*** can display and interpret data in various methods, including:

- Single or Multi-point BET surface area
- Adsorption and Desorption isotherms
- Langmuir surface area
- External Surface Area (statistical thickness method)
- BJH Pore Size Analysis
- t-Plot
- HK Pore Size Analysis
- SF Pore Size Analysis
- Average pore size, total pore volume



Specification Table

	micro 100	micro 200	micro 300
Sorption/Degas Stations	1	2	3
Separate Degassing Stations	2	2	0
Tranducers (per station w/p_0)	4	4	4
Surface Area	≥ 0.0005 m^2/g	≥ 0.0005 m^2/g	≥ 0.0005 m^2/g
Pore Size	0.35-500 nm	0.35-500 nm	0.35-500 nm
Pore Volume	≥ 0.0001 cm^3/g	≥ 0.0001 cm^3/g	≥ 0.0001 cm^3/g
Pump	Turbo + Mechanical pump (minimum: 7.5 x 10^{-12} mmHg)		
p/p_0	10^{-8} - 0.998		
Accuracy-Pressure Transducers (per station)	1000, 10, 1 (or 0.1) mmHg (+/- 0.20% F.S.)		
Degassing Temperature	400°C		
Adsorbates	N_2, CO_2, Ar, Kr, H_2, O_2, CO, NH_3, CH_4		

Industries

The **AMI-*micro*** series can serve the following industries:

- Catalyst Research
- Ceramics
- Oil and Gas
- Activated Carbon and Carbon Black
- Building Materials
- Pigments, Paints, and Thickeners

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