ASAP® 2420 Enhanced Micropore Option

Accelerated Surface Area and Porosimetry System

- *Enhanced micropore version extends low-pressure measurements for improved micropore analysis*
- *Fully automated analysis*
- *BET surface area measurements in as little as 30 minutes*
- *High throughput with six independent analysis stations*
- *Each analysis port has a dedicated analysis and P_0 pressure transducer*
- *Twelve fully automated and independently controlled degas ports*
- *Analysis temperature can be entered, calculated, or measured*
- *Equilibrium choices allow user to specifiy equilibration times for different parts of the isotherm*
- *Windows® driven software*

Micromeritics' ASAP® 2420 Accelerated Surface Area and Porosimetry System has been updated to include a new enhanced micropore transducer option. The enhanced micropore transducer extends the low-pressure measurement capabilities and allows enhanced performance for characterizing microporous materials using nitrogen, argon, carbon dioxide, hydrogen, and other fixed gases. The multiport capabilities of the ASAP 2420 provide an ideal platform for research and quality control laboratories requiring high-throughput material characterization including: BET surface area, pore volume distributions, pore area distributions, micropore analysis, and NLDFT modeling of adsorption isotherms.

The ASAP 2420 is designed for high-performance/high sample throughput with six independently operated ports for adsorption analysis and a fully automated sample preparation module with twelve independently controlled stations. Samples may be added or removed from degas ports without disturbing the treatment of other samples undergoing preparation or analysis. All ASAP 2420 systems feature a high-throughput mode to reduce analysis time. Then high-resolution measurements or long equilibration times necessitate extended analysis times, the ASAP 2420 is capable of performing unattended analyses for up to 60 hours without need to refill Dewars. If an analysis of greater than 60 hours is required, a unique feature of the ASAP 2420 allows the Dewars to be refilled during an analysis without disturbing the collection of isotherm data.

In keeping with a policy of ongoing product improvement, specifications are subject to change without notice

micromeritics®
The Science and Technology of Small Particles™

www.micromeritics.com

Micromeritics Instrument Corporation
4356 Communications Dr., Norcross, GA 30093, USA
US Sales: 770.662.3633, International Sales: 770.662.3660
Customer Orders: 770.662.3636, FAX: 770.662.3696

Specifications

Pressure Measurement

Analysis Manifold Transducer:

Range:	0 to 950 mmHg
Resolution:	
1000-mmHg Transducer	0.001 mmHg (Analysis system) 1 mmHg (Degas system)
10-mmHg Transducer	0.00001 mmHg
1-mmHg Transducer	0.000001 mmHg

Accuracy (Analysis system only):
Includes nonlinearity, hysteresis, and nonrepeatability. Transducer manufacturer's specifications.

1000-mmHg Range	Within 0.15% of reading
10-mmHg Range	Within 0.15% of reading
1-mmHg Range	Within 0.12% of reading

Vacuum Transducers:

Type:	Thermocouple
Range:	0.001 to 1 mmHg

Capacity

Analysis Manifold: 6 sample ports (5 for krypton) each with a constantly monitored saturation pressure port

Analysis Manifold Temperature Transducer

Type:	Platinum resistance detector (RTD)
Accuracy:	± 0.10 °C by keyboard entry
Stability:	± 0.10 °C per month

Vacuum System

4 pumps; 2 oil-free, 2 high-vacuum

Oil-free and high vacuum pump: ultimate vacuum 3.8 x 10^{-9} mmHg.

Ultimate vacuum measured by pump manufacturer according to Pneurop Standard 5608.

Cryogen System

Isothermal jackets maintain accurate free space during analysis and allow the analysis to be suspended so that the dewar may be refilled.

Dewar Capacity

2.5 liter, allows up to 60 hours before refilling

Degas System

Capacity:	12 degas ports, each with an independently controlled heating mantle
Evacuation:	Selectable evacuation rate from 1.0 to 50.0 mmHg/s
Vacuum Control:	Selectable target pressure controls switchover from restricted to unrestricted evacuation
Temperature Range:	Ambient to 450 °C (Programmable)
Temperature Control:	1 ramp during initial evacuation phase, 5 additional selectable ramps during heating and continued evacuation phase
Selection:	Digitally set, 1 °C increments from computer
Accuracy	Deviation less than ± 10 °C of set point at sensing thermocouple embedded in the heating mantle
Backfill Gas:	User-selectable at dedicated port, typically nitrogen or helium

Electrical

Voltage:	100/115/230 VAC (± 10%)
Frequency:	50 or 60 Hz
Power:	800 VA, exclusive of vacuum forepumps, which are powered separately

Environment

Temperature:	Ambient ± 10 to 30 ºC, operating; -10 to 55 ºC, storing or shipping
Humidity:	Up to 90% (non-condensing)

Physical

Width:	103 cm	(40.5 in.)
Depth:	51 cm	(20.2 in.)
Weight:	160 kg	(350 lb)
Height:	159 cm	(62.5 in.)

Computer

Minimum requirements:

Computer capable of running Windows® 2000, Windows® XP Professional or Windows Vista® Business or Ultimate operating system

CD-ROM drive

128 megabytes of main memory

20-gigabyte hard drive

SVGA monitor (1024 x 768 minimum resolution)

Ethernet port, capable of communicating with a 10 base-T ethernet card

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QUALITY MANAGEMENT SYSTEM
CERTIFIED BY DNV
ISO 9001:2008

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