

HYDROSORB™-1000

WATER VAPOR SORPTION ANALYZER



Quantachrome
INSTRUMENTS

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Quantachrome's Hydrosorb 1000

Water sorption behavior plays an important role in the manufacture and design of many commonly encountered materials. Some examples include:

- Drying and storage of grains
- Shelf life of food products
- Stability of pharmaceutical substances
- Effectiveness of coatings for dental stain resistance

Water sorption measurement has traditionally been either slow and laborious, or costly and limited to small quantities of material. The **Hydrosorb 1000** is the latest innovation in water sorption characterization and overcomes these limitations. It offers fully automated, rapid measurement of adsorption and desorption water isotherms including BET surface area calculations and heats of adsorption. Sample temperature is thermostatted in the range 12 - 47° C and accurate water vapor dosing is made possible by using a unique, heated (100° C) manifold design. The fully integrated control system provides color real-time status, graphical data review and reporting functions via built-in color monitor and printer port. Data (ASCII format) can be uploaded to a PC via RS232 for importing into popular spreadsheet programs for further manipulation.

HYDROSORB™ 1000 SPECIFICATIONS

Physical

Depth:	58 cm (23 in.)
Width:	55 cm (22 in.)
Height:	73 cm (29 in.)
Weight:	113 kg (140 lbs.)

Electrical

Mains:	100-240V AC
	50/60Hz
Power:	1000 VA

Environmental Requirements

Temperature:	15 - 50°C
Maximum Relative Humidity:	80%

Temperature Controller & Oven Specifications

Temperature Control:	+/- 0.3°C @ 100°C
Manifold Temperature Gradient:	+/- 0.3°C @ 100°C

Sample Cell Requirements

Po Range:	10 - 80 mm Hg
Bath Temperature range:	12.0 - 47.0°C

Required Utilities

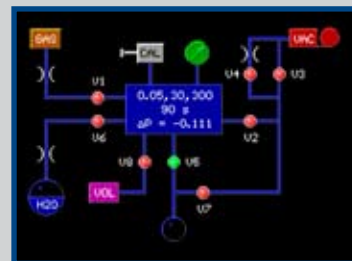
Vacuum pump (20µm or better)
Nitrogen or Helium Gas
Temperature Controlled Recirculator

Optional Accessories

NOVA Flow Degasser
NOVA FloVac Degasser
Printer

Transducer Specifications

Pressure Resolution:	0.0015 mm Hg
Accuracy :	0.5% of Reading (+/- temperature coefficients) (includes non-linearity, hysteresis, and non-repeatability)
Temperature coefficients:	
Zero:	0.02% of F.S. / C° (200 PPM)
Span:	0.04% of Reading / C° (400 PPM)
Operating Temperature:	0 - 150°C
Overpressure Limit:	35 PSIA



Graphic Status Display



Built-in printer port for reporting options



Quantachrome Instruments' corporate headquarters in Boynton Beach, Florida.

Quantachrome®

Renowned innovator of ideas for today's porous materials community.

For over 40 years, Quantachrome's scientists and engineers have revolutionized measurement techniques and designed instrumentation to enable the accurate, precise, and reliable characterization of powdered and porous materials:

- Adsorption/Desorption Isotherms
- Surface Area Measurement
- Pore Size Distribution
- Chemisorption Studies
- Water Sorption Behavior
- Mercury Porosimetry
- True Solid Density
- Tapped Density

Not only are Quantachrome products the instruments of choice in academia, but the technology conceived and developed by our expert staff is applied in industrial laboratories worldwide, where research and engineering of new and improved porous materials is ongoing. Manufacturers also rely on porous materials characterization technology to more precisely specify bulk materials, to control quality, and to isolate the source of production problems with greater efficiency.

Quantachrome is also recognized as an excellent resource for authoritative analysis of your samples in our fully equipped, state-of-the-art powder characterization laboratory.



Quantachrome Instruments Application Laboratory.

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