



Product News

New AccuPyc from Micromeritics for True Density Measurement

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Norcross (GA), United States –

Micromeritics Instrument Corp., a global leader in characterization of porous and particulate materials, released the new AccuPyc gas pycnometer, featuring innovative technology that makes it the fastest, easiest, most accurate system for measurement of true density.



Solid density is important to characterize many solid materials. Porous, particulate, and irregularly-shaped solids are difficult to measure accurately by traditional methods, but gas pycnometry provides a reliable measurement of true density.

Every AccuPyc features new AccuTemp thermoelectric temperature control. Temperature stability within $\pm 0.025^{\circ}\text{C}$ enhances measurement repeatability and reduces analysis time. Analyses can be performed in 30% less time than other pycnometers, making the AccuPyc the fastest gas pycnometer available. An analysis temperature range of 4°C to 60°C – the widest available – empower users to measure density at their process temperature, whether replicating refrigerated biopharmaceutical storage or elevated-temperature manufacturing.

A new hinged, self-aligning lid provides frustration-free operation and constant chamber volume, ensuring reproducibility. The new Breeze touchscreen interface provides intuitive instrument control and results review for users with any level of experience. The integrated MIC Net centralizes density data across the lab, including forward compatibility with existing AccuPyc systems. A wide analysis volume range from 100 cm^3 to 0.1 cm^3 permits large volumes that eliminate sampling error in heterogeneous materials through low volumes that conserve scarce materials. These features, plus new capabilities like PowderSafe mode and the stored Method Library make the AccuPyc the easiest pycnometer in the world to operate.

Advanced gas modeling allows operators to change analysis gas from helium to nitrogen, air, or other gases without additional calibrations and reduces errors associated with pressure variation. The system is the most accurate gas pycnometer available; its measurement accuracy of 0.02% is a 30% improvement over prior generations and is a product of the self-aligning lid, AccuTemp, and advanced gas modeling. Micromeritics Vice President of Science, Dr. Jeffrey Kenvin said, “This next generation AccuPyc incorporates technology available in research grade instruments; improving upon the speed, accuracy, and repeatability of previous generations. The new AccuPyc establishes a new standard for performance and ease of use.”

Collectively, these speed, accuracy, and usability advances will benefit scientists who develop and optimize materials in fields like battery anodes and cathodes, additive manufacturing, catalysis, ceramics, pharmaceuticals, and more.