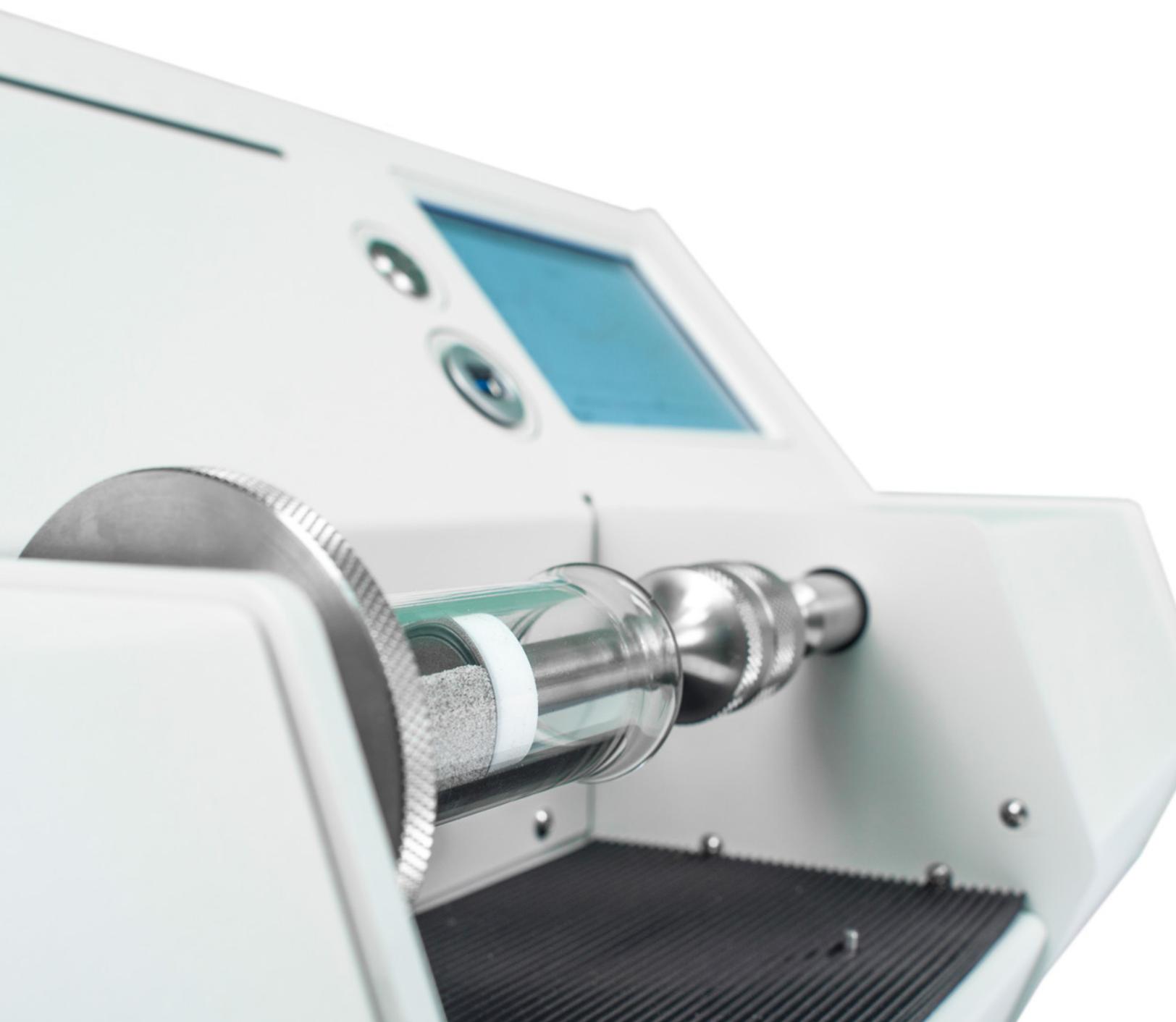




GeoPyc[®] 1365

Envelope Density Analyzer



GEOPYC 1365

Envelope Density Analyzer



Highly accurate and reproducible results



Fast operation in a small bench-top instrument



Fully automated data acquisition and reporting



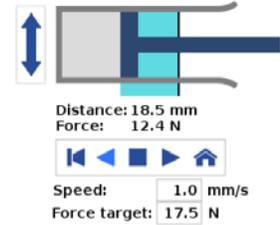
Nondestructive analysis maintains sample integrity



Intelligent touch panel for ease of operation and reporting

The GeoPyc employs a unique displacement measurement technique that uses Dry Flo, a quasi-fluid composed of small, rigid spheres having a high degree of flow-ability. The sample is placed in a bed of Dry Flo which is agitated and gently consolidated about the sample. The GeoPyc collects the displacement data, performs the calculations, and displays or prints the results.

The unit also reports percentage porosity and specific pore volume when absolute density information (density excluding pore and small cavity volume obtained from a Micromeritics AccuPyc II pycnometer) is entered.



T.A.P. Density Option

The GeoPyc T.A.P. density option obtains precise results comparable to conventional tap density analyzers, only it does it faster, quieter, and with a higher degree of reproducibility.

When equipped with the T.A.P. Density option, the GeoPyc measures the packing volume and calculates the bulk density of granular and powdered samples, including pharmaceutical and electrochemical materials, under a wide range of compaction conditions.

To determine T.A.P. density, the sample chamber is rotated and agitated while a precise specified force is applied to the sample. A force transducer measures the consolidation force in Newtons and the distance over which the consolidation piston and plunger travel is measured in steps. The user specifies the force applied and the number of consolidations per analysis. The GeoPyc averages the measurements from each consolidation and automatically calculates volume and density, and reports the results in cm^3 and g/cm^3 .



Technique

The GeoPyc automatically determines the volume and density of a solid object by displacement of Dry Flo, a solid medium. The medium is a narrow distribution of small, rigid spheres that have a high degree of flow ability and achieve close packing around the object under investigation. The particles are sufficiently small that during consolidation they conform closely to the surface of the object, yet do not invade pore space.

Repeatability and reproducibility are achieved by a controlled method of

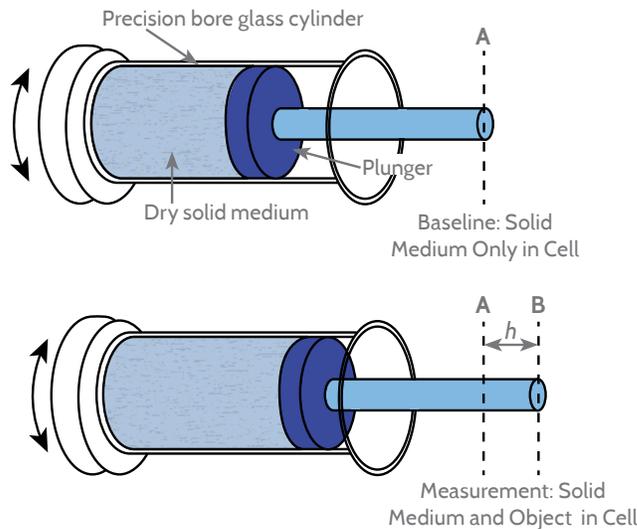
compaction. The sample cell in which the dry medium is placed is a precision cylinder. A plunger compresses the powder as the cell vibrates; the force of compression is selectable and, therefore repeatable from test to test. A preliminary compaction with only the displacement medium in the cell establishes a zero-volume baseline.

The sample is then placed in the cylinder with the dry medium and the compaction process is repeated. The difference in the distance h_t the piston penetrates the cylinder during the

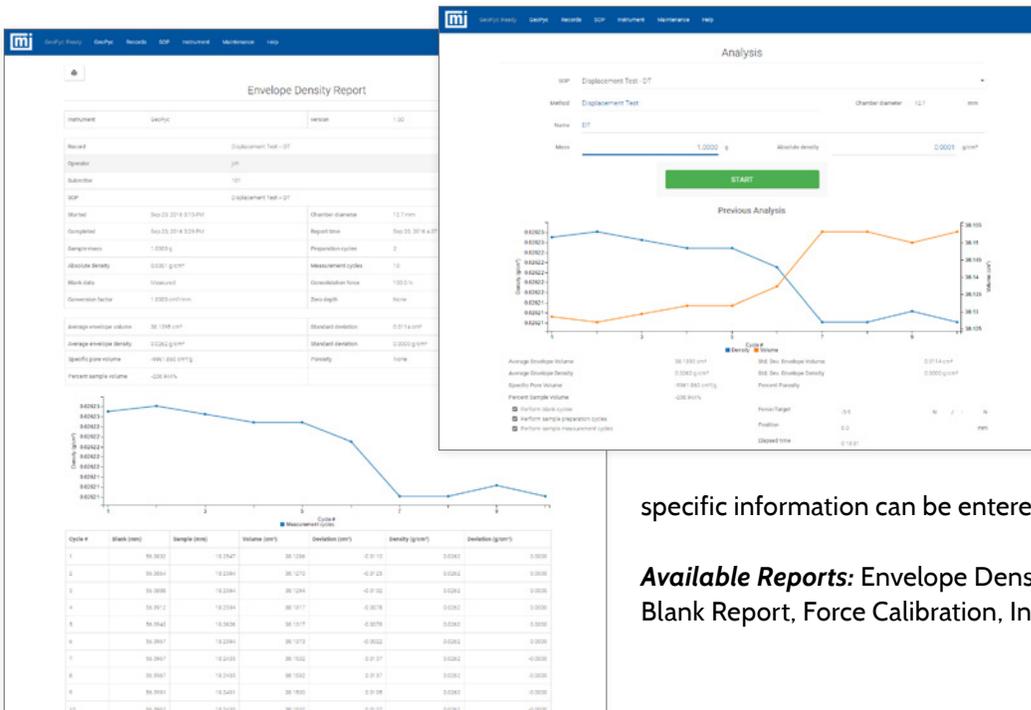
test and the distance h_0 it penetrates during the baseline procedure ($h = h_0 - h_t$) is used to calculate the displacement volume of the medium using the formula for the volume of a cylinder of height h , $V = \pi r^2 h$

The GeoPyc is operated from an intelligent touch screen. Data acquisition and reporting are fully automated for convenient incorporation in LIMS or other data concentrating systems.

A variety of sample chambers is available to accommodate a wide range of sample sizes. After the analysis, a light shaking or dusting completely removes the Dry Flo so the samples can be reused or retested. The GeoPyc has multiple operating modes including full blank, computed blank, and reference solid calibration with variance, which allows you to optimize speed and accuracy for your individual needs. During analysis, indications of progress and preliminary results make it possible to track what is occurring.



Software



The GeoPyc has multiple operational modes that are accessed through the instruments smart touch screen. Operating modes including full blank, computed blank, and reference solid calibration with variance, which allows you to optimize speed and accuracy for your specific application.

During analysis, indications of progress and preliminary results make it possible to track what is occurring. Sample-specific information can be entered into the analysis reports.

Available Reports: Envelope Density, Volume Calibration, Blank Report, Force Calibration, Instrument Log

Specifications

Reproducibility

When sample volume is at least 25% of sample holder volume: Typically $\pm 1.1\%$

Sample Chamber

12.7-mm (0.50 in.) ID	Sample volumes between 0.3 cm ³ and 0.8 cm ³
19.1-mm (0.75 in.) ID	Sample volumes between 0.8 cm ³ and 2.4 cm ³
25.4-mm (1.00 in.) ID	Sample volumes between 2.4 cm ³ and 5.3 cm ³
38.1-mm (1.50 in.) ID	Sample volumes between 5.3 cm ³ and 13 cm ³
50.8-mm (2.00 in.) ID	Sample volumes between 13 cm ³ and 25 cm ³

Physical

Height	11 in.
Width	22 in.
Depth	15 in.
Weight	42 lbs

Electrical Power

Electrical Power	95 VA
Voltage	85 to 265 VAC
Frequency	47 to 63 Hz

Environment

Temperature	15 °C to 35 °C
Humidity	20% to 80% non-condensing

**Due to continuous improvements, specifications are subject to change without notice.*



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To request a quote or additional product information, visit

micromeritics.com

Contact your local Micromeritics sales representative
or our Customer Service Department at

770-662-3636

