



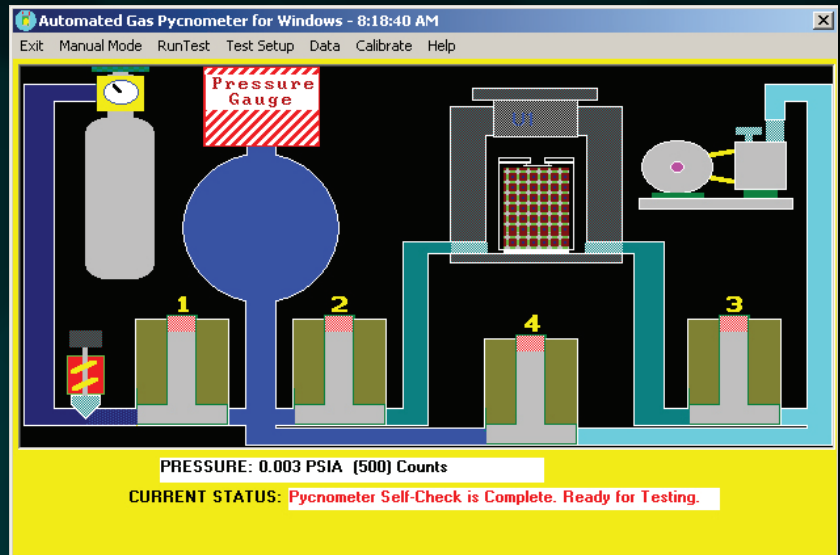
**THE PMI
AUTOMATED
GAS/HELIUM
PYCNOMETER
PYC-100A**

Not just products...solutions!

Operating Procedure

PMI's Automated Gas/Helium Pycnometer is used to determine the true volume and true density of powders and bulk solids using high-precision volume measurements and density calculations. The true volume of a solid is calculated from the measured drop in pressure when a known amount of gas is allowed to expand into a chamber containing sample.

Thus, the true volume obtained by pycnometry includes any pore volume accessible to the gas. Helium is the preferred gas, because it exhibits ideal gas behavior. However, almost any non-corrosive gas including air can be used. The true density is obtained by dividing the weight of the sample by true volume.



Applications

- Automated Industry
- Battery/Fuel Cells Industry
- Ceramic Industry
- Chemical Industry
- Nonwovens Industry
- Pharmaceutical/Medical Industry
- Powder Metallurgy Industry

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GAS PYCNOMETRY ANALYSIS

Test Type: VACUUM
 Test Date: 06-22-2001

Sample ID: Polypropylene resin
 Mass: 10.481 gm

Reference Volume: 11.31 cc
 Sample Chamber Volume: 24.96 cc

PFO	PIO	PI	PF	VOLUME	DENSITY
PSIA	PSIA	PSIA	PSIA	(cc)	(gm/cc)
00.003	00.003	09.798	04.399	11.073	00.947
-00.003	-00.002	09.802	04.394	11.051	00.948
-00.003	-00.002	09.796	04.392	11.055	00.948
-00.003	-00.003	09.792	04.394	11.076	00.946
-00.003	-00.003	09.796	04.393	11.060	00.948
Average Volume : 11.063 cc					
Average Density : 0.947 +/- 0.001					

Specifications

- **Number of Sample Chambers:** 1
- **Sample Size:** 10cc, 25 cc, 50 cc and 100 cc
- **Sample Type:** Single sample loading feature, combined with automatic repeated run for user specified maximum no. of runs ease of operation & high performance.
- **Gas type:** Helium and any non-corrosive gas including air can be used
- **Pressure Transducer Range:** from Vacuum upto 250kPa (Absolute Reading)
- **Low sample volume:** 100 to 150 cc
- **Calibration Spheres:** Size: 1 Inch, 2 Inch, 4 Inch
- **Accuracy:** $\pm 0.05\%$ of full scale volume
- **Total Analysis Time:** Less than 5 minutes
- **Operating Range:** 1 Psig to 20 Psig
- **Pore Structure Characteristics:** Absolute Density
- **Power Supply:** 240V +/- 10% AC / 1 Ph / 50 Hz
- **Safety:** Mechanical relief valves prevent over pressurization at needed locations
- **Instrument can repeat measurements automatically with user defined settings**
- **Includes calibration volumes.**
- **Software:** Windows compatible

Features

- Nondestructive measurement
- Test Substance
- Automated Control
- Option to purge by a suitable method
- Low required pressures; works with compressed air
- Highly reproducible & accurate results
- The instrument has Direct Display of results for True Volume of the powder as well as Granular Materials
- Stainless steel embodiment

Operating Mode

- PMI Automated Gas Pycnometer can be operated via personal computer (PC) in either automatic or manual modes.

Software Features

- Capable to be programmed for automatic repeat measurements or for data acquisition
- Windows based
- Automatic Pressure and Volume Calibration routines
- Under user selected tolerances.
- Graphic presentation of the data to be evaluated and analysis results
- Exporting graphic files to window based word / excel processing files for report generation
- Provision for off-line data processing.
- Integrated detailed help system.
- True Density is provided by the software.

Sales & Services



Our sales team is dedicated to helping our customers find which machine is right for their situation. We also offer custom machines for customers with unique needs. To find out what we can do for you, contact us. We are committed to customer support including specific service products, short response times & customer specific solutions. To quickly & flexibly meet our customer's requirement, we offer a comprehensive range of services.

Customize your machine today!

The most advanced, accurate, easy to use
and reproducible Pycnometers in the world.

Celebrating



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