



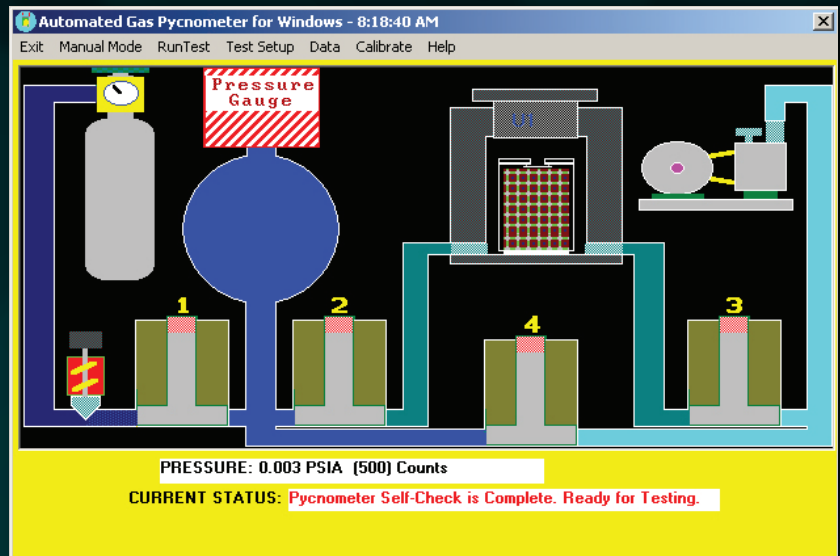
**THE PMI  
AUTOMATED  
GAS/HELIUM  
PYCNOMETER  
PYC-G100A-2**

**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

Porous Materials, Inc. Analytical Services Department  
 20 Dutch Mill Road  
 Ithaca, NY 14850 USA  
 Phone 607-257-4267, 2575544 or 1-800-825-5764  
 E-mail: info@pmiapp.com  
 www.pmiapp.com

### 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

## Features

- *Nondestructive*
- *Test Substance*
- *Automated Control*
- **Pore Structure Characteristics:** *Absolute Density*
- **Operating Mode:** *PMI Automated Gas/Helium Pycnometer can be operated via personal computer (PC) in either automatic or manual modes.*

## Specifications

- **Includes adapter to run sample size:** *5-100 cc*
- **Sample Size:** *25 cc to 100cc*
- **Number of Sample Chambers:** *2*
- **Accuracy and reproducibility:** *0.1%*
- **Power Requirements:** *220V, 50/60/Hz*
- **Software:** *Windows compatible*
- **1m<sup>3</sup> Pycnometer**

## Hardware

- *2 Sample chambers*
- *Pressure relief valve prevents over pressurization of pressure gauge*
- *Any non-corrosive and non-absorbing gas can be used*
- *Use of metering valve provides excellent control on the amount of gas (pressure) that can be used for the test*
- *Slow evacuation for powder samples prevents powder from being dragged into the vacuum pump*
- *Minimal operator involvement*

## Software Features

- Windows 98, XP or 2007,2008 compatible software enables convenient use of the instrument
- User define pressure can be used to test the samples
- The user can be specifying the number of times the test is to be repeated within the specified standard deviation
- Automatic pressure and volume calibration routines for different kind of test methods
- Software allows the user to perform a test in the manual mode
- Software allows the user to store different test settings so that the settings can be recalled and used for future testing
- Test results can be stored to disk and printed directly



## 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*



*of solutions*



20 Dutch Mill Rd, Ithaca, NY 14850, USA

Toll Free (US & Canada): 1-800-TALK-PMI (1-800-825-5764)

Phone: 607-257-5544 Fax: 607-257-5639

Email: [info@pmiapp.com](mailto:info@pmiapp.com)

[www.pmiapp.com](http://www.pmiapp.com)