G-DenPyc 2900™

Gas Pycnometer True Density Analyzer

真密度测定仪
G-DenPyc 2900

APP 金埃谱科技
www.app-one.com.cn

Lead You to Particle World Better

Gas Displacement Pycnometer

G-DenPyc 2900

**Measurement for Foams, Powders, Solids,Films、Slurries、Coatings、Polymers、Calcination etc.**

A gas pycnometer is a laboratory device used for measuring the density—or more accurately the volume—of solids, be they regularly shaped, porous or non-porous, monolithic, powdered, granular or in some way comminuted, employing some method of gas displacement and the volume. A gas pycnometer is also sometimes referred to as a helium pycnometer.

Gas expansion pycnometer is also known as constant volume gas pycnometer. The simplest type of gas pycnometer (due to its relative lack of moving parts) consists of two chambers, one (with a removable gas-tight lid) to hold the sample and a second chamber of fixed, known (via calibration) internal volume – referred to as the reference volume or added volume. The device additionally comprises a valve to admit a gas under pressure to one of the chambers, a pressure measuring device – usually a transducer – connected to the first chamber, a valved pathway connecting the two chambers, and a valved vent from the second of the chambers. In practice the sample may occupy either chamber that is gas pycnometers can be constructed such that the sample chamber is pressurized first, or such that it is the reference chamber that starts at the higher pressure.

Unmatchable Features

- Thermostatic System: analysis modules designed with *thermostatic system* can control temperature up and down easily, also hold modules stay at the best temperature(25 ℃) which can restrain transducer readings' temperature drift and keep system temperature uniformity; System can maintain temperature at a fixed value for some fixed-temperature-required samples.
- *Programmable logic controller (PLC) system* obtains high integration and strong anti-interference, software operated fully automated analysis enables freely choose of multi experiment modes.
- Patented V-Sorb *monolithic manifolds* system can improve sealing performance and reduce dead space largely, enhance system temperature's uniformity and anti-interference ability, all lead to a high accuracy and repeatability data.
- Installed with a detachable filter in sample cell's bottom, can prevent samples be suctioned into manifolds; inputting gas from cavity bottom can avoid samples splash and software controlled H-Sorb two-stage-stepping mode further ends splash happening.
- 50mm (diameter)\180ml and 500ml big cylinder sample cells are convenient for samples filling; *Exclusive G-DenPyc filling technology* supports to choose different volumetric aluminum blocks to fill cells instead changing other sizes cells according to samples' volume, this innovative method realizes minimal free space in cells and improve experiment accuracy.
- Programmable built-in mini win7 PC system, 7" touch screen, USB type external keyboard and mouse, operated by connecting to computer is available.
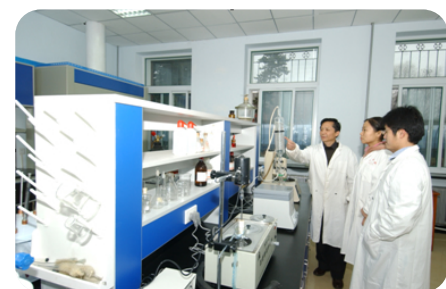
A world of applications
G-DenPyc 2900

Gas pycnometers are used extensively for characterizing a wide variety of solids such as
ceramic, catalysts, filter medium, nuclear fuel, oil & chemical industry, soil, fertilizer, carbon black, hard coke, fiber, minerals, pharmacy, cosmetics, cement, powdered foodstuff, desiccant (drying agent), powdered metal, ion exchange resin, silicon gel, alumina, titanium dioxide, solid foam etc.
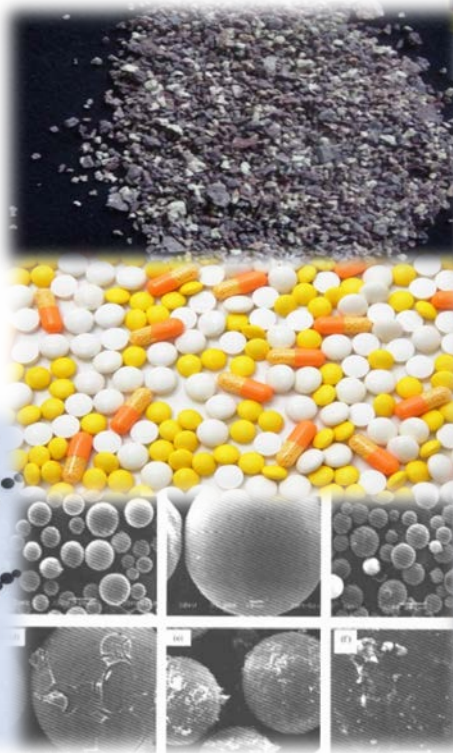
➢ Analysis Method: Volume displacement method, gas expansion method
➢ Versatility: true density analysis, rigid foam materials' percentage of open/closed space analysis
➢ Experimental Pressure: external vacuum pump is available, can adopt negative pressure (0-1Bar) or positive pressure (1-2Bar) two modes to analysis
➢ Accuracy: accuracy ±0.02%, repeatability ±0.01%, resolution can reach 0.0001g/cc
➢ Sample Ports: three samples analysis simultaneously
➢ Pressure Accuracy: imported high-precision pressure transducer, accuracy can reach 0.04% F.S., stability 0.025% F.S.
➢ Adsorbate Gas: high purity He or N_2 (99.999%)

Specification

Length: 37cm (14.57inch)
With: 31cm (12.20inch)
Height: 28cm (22.83inch)
Weight: 20kg (44Pounds)

3 analysis ports

Working signal

7 inch touch screen

Cells' container

Hardware Advantages

Different sample cells to match different shapes/mass samples

Big sample container can fill in various sorts of samples; easy for sample's loading and unloading; convenient for container's cleaning.

If analyzed sample mass is too little, can fill in aluminum blocks (speedy thermal conductivity) which can reduce space in sample cells, further, eliminate analysis errors and improve accuracy.
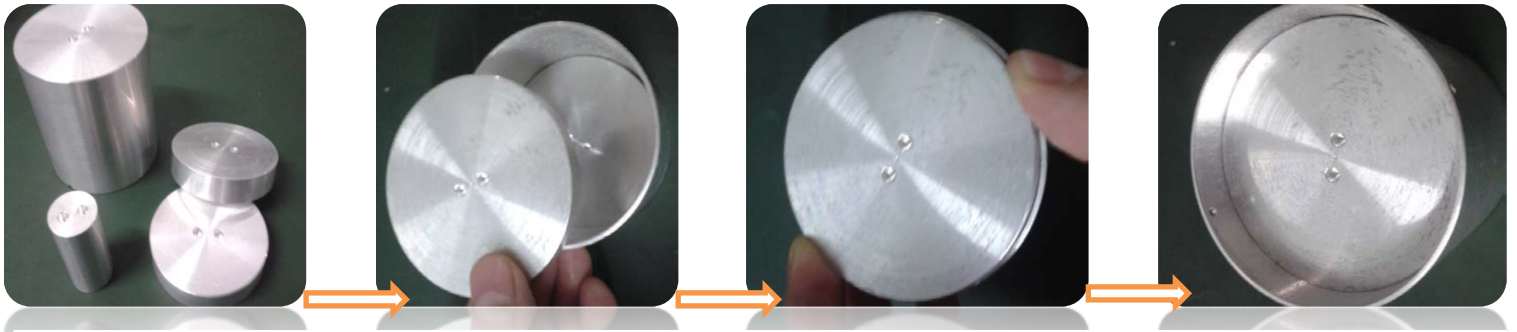
An aluminum lid can seal sample cells perfectly. Three functions for the sample cells' lid:

- Can completely eliminate sample splash, which may cause cells contamination, when vacuum pumping;
- Prevent samples pumped into electromagnetic valve which is a fragile and important part for analysis system;
- Can reduce pressure impact.

A delicate aluminum stick can help operators to screw the lid tightly and easily.
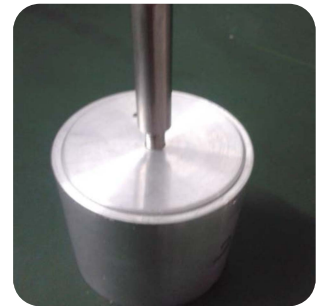
Double seals lead to a sound sealing performance; guarantee a highly accurate, repeatability and reproducibility data.
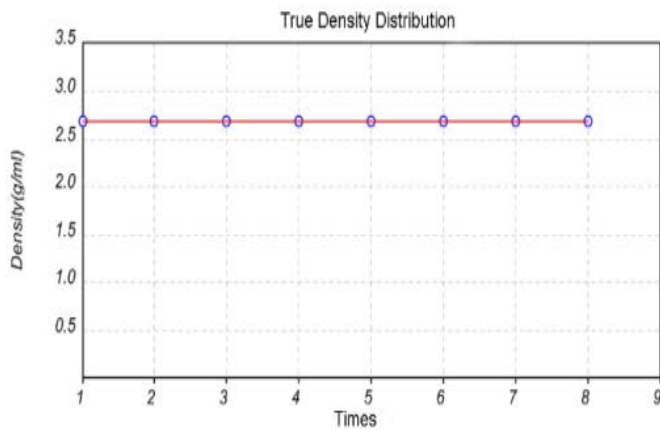
Software Advantages

[G-DenPyc 2900](#) can be controlled by a built-in keypad or an external computer system. The whole analysis status can be continuously displayed in the 8 inch touchable true color screen.

Monoblock aluminum and thermostatic system can produce a minimal temperature floating (±0.1℃), help a lot for big mass samples whose density change dramatically with temperature.
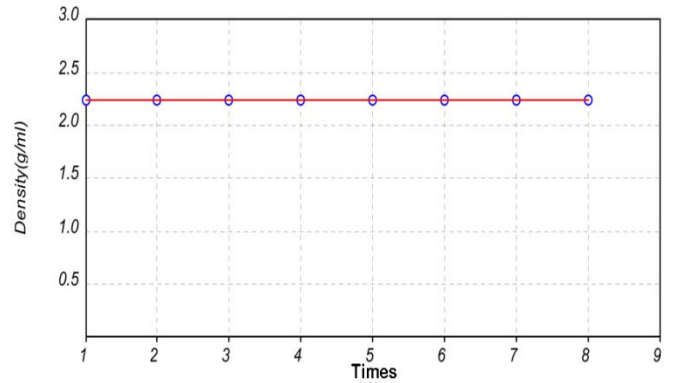
G-DenPyc 2900 system not only support multiple analyses in a fixed pressure but also provide target pressure analysis within a select range.

Offered user selected reports:
- ✓ True density
- ✓ True volume
- ✓ Total pore volume,
- ✓ Foams' percentage of open/closed space
- ✓ Summary report
- ✓ Sample log
- ✓ User defined tabular reports
- ✓ Equilibration report etc.

Data Reports

Equilibrium Pressure	Empty Cell Volume （ml）	Free Volume （ml）	True Density （g/ml）
51118.04	52.901100	37.744344	2.221099
47134.81	52.901100	37.800652	2.229382
45549.39	52.901100	37.802056	2.229589
46767.28	52.901100	37.791990	2.228103
50934.95	52.901100	37.791131	2.227977
47014.11	52.901100	37.798511	2.229065
51084.13	52.901100	37.786677	2.227320
47065.65	52.901100	37.793106	2.228268

True density distribution reports

Data Report Tabular for Battery Materials

Headquarters

Gold APP Instruments Corp. China
Floor 6th, Tianli Building, No.56th,
Zhichun Rd., Haidian District,
Beijing 100098,
CHINA P.R.C.
Tel: +86-10-82133318 Ext810
Mobile: +86-18210009838
Fax: +86-10-82118197
Email: sales@jinaipu.com
appone2008@hotmail.com
IMs:
Skype:
Gold-APP-Instruments
MSN:
goldapp@msn.com
Yahoo Messenger:
goldappinstruments@ymail.com
Gtalk:
goldappinstruments2008@gmail.com

Branch Offices

Gold APP Instruments (Nanjing) Corp. China
Room 512nd, No 4th Building,
Mingfa Commerce Square, No. 99th,
Yulan Rd., Yuhua District,
Nanjing 210012,
CHINA P.R.C.
Tel: +86-25-58491095
Fax: +86-25-58491095

Gold iCON Instruments (Wuhan) Corp. China
Room 5068, No. 1st Building,
Huiyuan Block, No. 1st Rd.,
Wuhan University Science Park,
East Lake High-Tech Zone,
Wuhan 430223,
CHINA P.R.C
Tel: +86-27-59712850/1/2
Fax: +86-27-59712851 Ext.616

SR No.		Parts	Quantity
1	Manufacturer Supplied	G-DenPyc 2900 Analyzer	1 set
2		Analysis Software (English)	1 set
3		Rubber O-rings for Sample Cells Sealing	10
4		Sample Cells (container)	3
5		Filling Aluminum Blocks (for sample cells)	5
6		Copper Pipe	2 m
7		Powder Line	1
8		Data Wire	1
9		Vacuum Pump	1 set
11		User Manual(English)	1 copy
12		Software CD (English)	1 copy
13	Customer Prepared	High Purity N_2 (99.999%)	1 pot
14		Gas regulator	1 set
15		Computer	1 set
16		Printer	1 set

Websites:
- www.app-one.com.cn
- www.jinaipu.com

Laboratory

Room 601, Tower A, New Material Building, No. 7th,
Fenghui Middle Rd., Haidian District,
Beijing 100094,
CHINA P.R.C
Tel: +86-10-58711838
Fax: +86-10-58711838

GOLD APP INSTRUMENTS®

Lead You to Particle World Better