G-DenPyc 2900 Helium Pycnometer Analyser

* Helium gas pycnometer with 3 analysis stations;

* A built-in Windows computer with 10 inch display, supports touchable operation;

* Standard chambers of 10, 15 and 65ml, supports to customize other volumes up to 180ml;

* Speedy testing within 5 mins for per points;

* Affordable price no matter for production fields or researching institutes;

* True density determination, open and closed pore cell determination.

G-DenPyc 2900 helium pycnometer analyser introduction

A gas pycnometer operates by detecting the pressure change resulting from displacement of gas by a solid object. Expanding a quantity of gas at known pressure into an empty chamber and measuring the pressure establishes a baseline. Then a sample is placed in the chamber and the chamber is resealed. The same quantity of gas at the same pressure is again expanded into the sample chamber, and the pressure is measured. The difference in the two pressure combined with the known volume of the empty sample chamber allows the volume of the sample to be determined by way of the gas law.

The accuracy and precision of the gas pycnometer in determining density is good, but the method relies greatly on the cleanliness of the sample material and purity of the analysis gas. In this case, Gold APP Instruments had explored a smart sample preparation degasser for materials handle, can guarantee to gain the "cleanliness" testing data.

G-DenPyc 2900 helium pycnometer analyser specifications

1. Analysis Principle: Volume displacement method/gas expansion principle
2. Testing Data: true (also terms as real, absolute, apparent or skeletal) density analysis, rigid foam materials percentage of open/closed pore space analysis
3. Analysis Pressure: external vacuum pump is option, can adopt negative (0-1Bar) or positive pressure (1-2Bar) two modes to analysis
4. Data Accuracy: accuracy ±0.02%, repeatability ±0.01%, resolution 0.0001 g/cc
5. Sample Station: three analysis stations
6. Sample Chamber: provide standard 10ml, 15ml and 65ml chambers, also can customize any volume chambers from 5-180ml.
7. Pressure Accuracy: imported high-precision pressure transducer, accuracy can reach 0.05% F.S., stability 0.025% F.S.
8. Adsorbate Gas: high purity Helium or air or Nitrogen
9. Operation: a built-in PC with a 10 inch touchable display, can do all testing steps from this PC, also supports to monitor the whole procedures

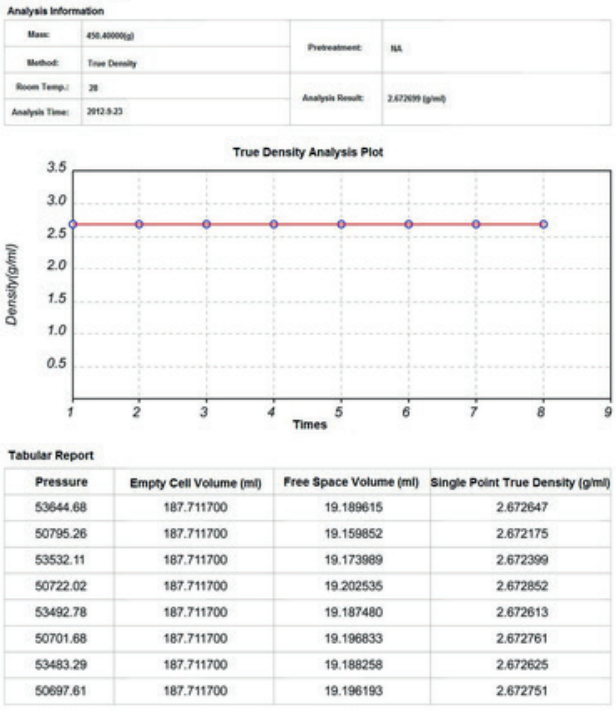
ES France - Département Bio-tests & Industries
127 rue de Buzenval BP 26 - 92380 Garches
Tél. 01 47 95 99 90
Fax. 01 47 01 16 22
e-mail : bio@es-france.com
Site Web : www.es-france.com

G-DenPyc 2900 helium pycnometer analyzer technical features

1. Data Reduction: high-precision PpT gas density calculation model eliminates measurement errors caused by non-ideality gas state, can increase analysis accuracy
2. Control System: programmable logic controller (PLC) system obtains high integration and strong anti-interference, software operated fully automated analysis enables freely choose of multi measurement modes
3. Analysis Management: programmable built-in system, 10 inch touchable display, USB type external keyboard and mouse, operated by connecting to an external computer is available
4. Manifolds System: patented V-Sorb monolithic manifolds system can improve sealing performance and reduce dead space largely, enhance system temperature uniformity and anti-interference ability, all lead to a high accuracy and repeatability data
5. Splash-proof Measures: installed with a detachable filter in sample cell bottom, can prevent samples be suctioned into manifolds; inputting gas from bottom of cavity can avoid samples splash and software controlled H-Sorb two-stage-stepping mode further ends splash happening
6. Sample Chamber: Exclusive G-DenPyc filling technology supports to choose different volume aluminum blocks to fill into testing chamber, this innovative method realizes minimal free space in testing chambers and improve data accuracy

G-DenPyc 2900 helium pycnometer analyser application fields

Apply to research and quality control for below materials: ceramic, catalysts, filter medium, nuclear fuel, oil & chemical industry, soil, fertilizer, ca rbon black, hard coke, fiber, minerals, pharmacy, cosmetics, cement, powdered foodstuff, desiccant (drying agent), powdered metal, ion exchan ge resin, silicon gel, alumina, titanium dioxide, solid foam etc. true density data, also can be used to measure open and closed pore cell for rigid foam materails.



Analysis Information

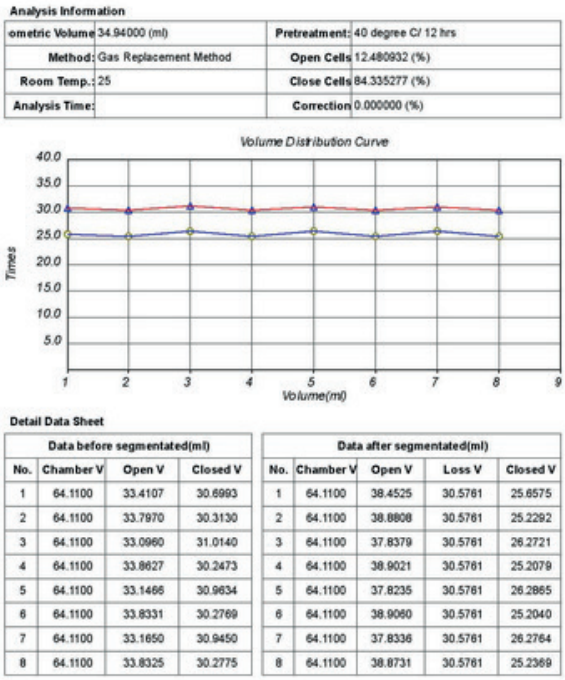
Mass:	458.40000(g)	Pretreatment:	NA
Method:	True Density		
Room Temp.:	28	Analysis Result:	2.672699 (g/ml)
Analysis Time:	2012-9-23		

True Density Analysis Plot

Tabular Report

Pressure	Empty Cell Volume (ml)	Free Space Volume (ml)	Single Point True Density (g/ml)
53644.68	187.711700	19.189615	2.672647
50795.26	187.711700	19.159852	2.672175
53532.11	187.711700	19.173989	2.672399
50722.02	187.711700	19.202535	2.672852
53492.78	187.711700	19.187480	2.672613
50701.68	187.711700	19.196833	2.672761
53483.29	187.711700	19.188258	2.672625
50697.61	187.711700	19.196193	2.672751

true density report



Analysis Information

ometric Volume	34.94000 (ml)	Pretreatment:	40 degree C/ 12 hrs
Method:	Gas Replacement Method	Open Cells	12.480932 (%)
Room Temp.:	25	Close Cells	84.335277 (%)
Analysis Time:		Correction	0.000000 (%)

Volume Distribution Curve

Detail Data Sheet

Data before segmentated(ml)				Data after segmentated(ml)				
No.	Chamber V	Open V	Closed V	No.	Chamber V	Open V	Loss V	Closed V
1	64.1100	33.4107	30.6993	1	64.1100	38.4525	30.5761	25.6575
2	64.1100	33.7970	30.3130	2	64.1100	38.8808	30.5761	25.2292
3	64.1100	33.0960	31.0140	3	64.1100	37.8379	30.5761	26.2721
4	64.1100	33.8627	30.2473	4	64.1100	38.9021	30.5761	25.2079
5	64.1100	33.1466	30.9634	5	64.1100	37.8235	30.5761	26.2865
6	64.1100	33.8331	30.2769	6	64.1100	38.9060	30.5761	25.2040
7	64.1100	33.1650	30.9450	7	64.1100	37.8336	30.5761	26.2764
8	64.1100	33.8325	30.2775	8	64.1100	38.8731	30.5761	25.2369

open and closed pore volume report

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