True Density

Full Automatic Gas Pycnometer: Macpycno®

Full automatic gas pycnometer for reliable, precise and quick analysis of true volume and real density of solids by using the gas displacement method.

The Macpycno® provides reliable and precise results in a short amount of time. Additionally, with its high repeatability it is most suitable for laboratories and quality control.

To set up the measurement of a sample there are only a few steps needed. The actual measurement itself is fully automatic. Macpycno® is also equipped with Peltir device to monitor and adjust the temperature of the chambers.
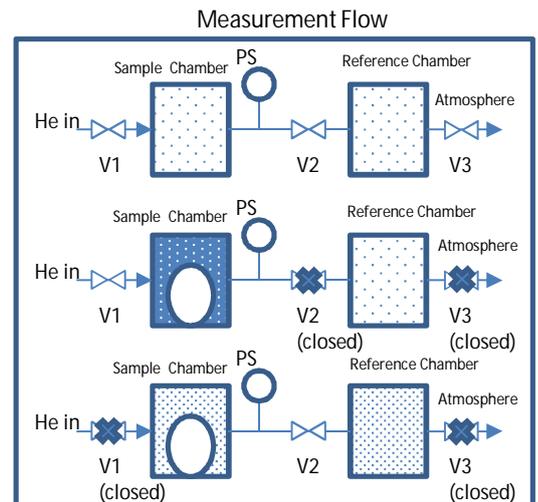
A high range of various samples can be analyzed from nano materials to components and many others.

Measurement principle

The measurement principle relies on the well known gas displacement method to measure the true volume and density of solids. The Macpycno® uses helium as the displacement gas due to its size and generally inert behavior.

Principle of Operation

(1) Sample chamber (empty) and reference chamber are purged from atmospheric air with helium.
(2) Valve 2, 3 are closed and the sample is put inside the sample chamber. The pressure in the sample chamber will rise to a certain level.
(3) If the max. pressure is reached, valve 1 is closed and valve 2 is opened. A pressure equalization between sample and reference chamber will happen, that is used to calculate the true volume of the sample.

Measurement Flow

Specifications

Principle	Gas displacement method
Manufacture's country	Japan
Displacement gas	Helium
Repeatability	± 0.03％
Measurement Cell Volume	Sample pod : 20cc, 40cc, 60cc ※Option : 3cc, 110cc
Calibration	Stainless steel ball for calibration
Interface	Color touch panel
Chamber temperature control	18～30℃ (automatically controlled through Peltir device) Measurement pressure self control （Option）
Size	W450×D410×H250
Weight	26kg
Note	Possible to output the measurement data to USB stick as CSV file Possible to manage and analyze the data by PC.