

Automatic True Density Meter

YK-DM6120

The fully automated true density analyzer is a two-station, The instrument can determine true density/absolute density, true volume, and open-cell porosity of solid and foam materials, and is equipped with a constant temperature control system.



DM6120 Series Configuration

Number of Analysis Stations: 2
Irregular Temperature Mode: Standard
Vacuum Pump System: Optional

Working Principle

Archimedes' Principle - Gas Expansion and Displacement Method: Utilizing Bohr's Law ($PV=nRT$) for small-molecule inert gases under certain conditions, the sample's skeletal volume (including closed pores) is accurately determined by measuring the volume of gas displaced by the sample within the test chamber, thus obtaining its true density. True density = mass/skeletal volume.

Technical Specifications

- Number of Analysis Stations: 2 stations
- Accuracy: $\leq 0.02\%$
- Repeatability: $\leq 0.01\%$
- Resolution: $\leq 0.0001 \text{ g/cc}$



0086 16601757347
inquiry@yukelab.com
www.yukelab.com
0086 021 59570209

- Each analysis station is equipped with an independent reference cell and pressure system
- Freely switchable bidirectional gas inlet mode, standard reverse gas inlet fine powder mode
- Standard three sample cells (10, 30, and 100 cc), customizable
- Built-in Peltier temperature control, no external circulating water bath required
- Automatic repetitive operation to achieve user-selected allowable accuracy
- Optional vacuum pump for in-situ sample degassing
- User-selectable maximum pressure to prevent sample deformation due to excessive pressure
- Miniature sample cells available for smaller samples
- Automatic or user-selectable pressure equilibration time
- Experimental gas is high-purity helium or high-purity nitrogen

Standard Implemented:

GB/T 40401-2021: Measurement of skeleton density, gas volume displacement method

GBT 5071-2013: Refractory materials—True density test method

MT/T713-1997: True density test method for coal dust

ASTM D6226-2005: Test method for open cell content of rigid microporous plastics

GB/T10799-2008: Rigid foamed plastics—Determination of open and closed cell volume percentage

ASTM—D2856: Standard method for determining the percentage of open cell volume in rigid foamed plastics using an air density meter