PRODUCT DATASHEET

# Gas Pycnometer (Helium and Nitrogen)

True density by gas displacement





DETAIL – SAMPLE CHAMBER AND SCREW CAP

## OVERVIEW

The Tech Inc. Gas Pycnometer (Helium and Nitrogen) measures the true (skeletal) volume and density of powders, granules, foams and solid pieces. Gas at a known pressure in a reference chamber expands into the sample chamber; from the two pressures and Boyle's law the instrument calculates the volume of the solid, and with the sample mass, its density.

## MODELS AND CONFIGURATIONS

- **Standard model** – cups of about 1, 10 and 100 cm³.
- **Core model** – chamber sized for 1 and 1.5 inch cores.
- **Thermostatted model** – best repeatability for small volumes.

## TYPICAL DESIGN DATA

| | |
|---|---|
| **Model** | TI-PYC-100 series |
| **Gas** | Helium or nitrogen |
| **Cell volumes** | About 1 to 100 cm³ |
| **Repeatability** | Typically ±0.02% of full scale |
| **Accuracy** | Typically ±0.03% of reading plus ±0.03% of full scale |
| **Standards** | ASTM D4892, ASTM B923 and USP methods supported |

## APPLICATIONS

Pharmaceutical powders, battery materials, ceramics, catalysts, cement, metal powders for additive manufacturing, polymers and foams, and rock cores.

## KEY ADVANTAGES

- **Fast** – a few minutes per sample
- **Non-destructive** – the sample is reused
- **Precise** – repeat runs averaged automatically
- **Versatile** – powders, solids and cores

**Designed and built by Tech Inc.** · **Part of the Davey Group since 1990**

Offices: Chennai · Toronto · Tallinn · Al Khobar

mail@techincresearch.com · +1 (289) 622-1032 · www.techincresearch.com

Disclaimer: All products, designs and content are the property of Tech Inc. Tech Inc. reserves the right to change specifications and details without notice. Images are for representation only; the supplied equipment may differ in appearance. Data are typical; final design to client specification.