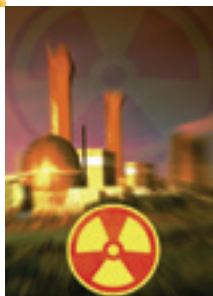


The Thermo Scientific Pycnomatic is the ultimate development in density measurement of solid materials. Based on the technique of gas displacement to measure real density of solid and powders, Pycnomatic delivers unrivalled fast and accurate results.

## Pycnomatic ATC

For solids and powders real density

Pycnomatic ATC  
Automatic Temperature Control



Density measurement is a fundamental parameter required for a full characterization of the properties of solids. It is applicable in a wide array of technological fields such as ceramics, mineralogy, geology, pharmaceuticals, metallurgy, pigments, building materials, foams, plastics, abrasives and catalysts, just to name a few.

### The first multi-volume gas pycnometer with integrated automatic temperature control

Temperature constancy is very important in static volumetric systems like a gas pycnometer. Calibration of the reference and sample cell and the actual measurement are all performed in a closed environment. The sample volume is determined by a mass balance of helium, measuring the gas expansion pressure. Temperature constancy is fundamental in achieving accurate results, especially when

the cell volume in use (and thus the sample volume) is very small. The innovative and powerful Thermo Scientific Pycnomatic Automatic Temperature Control (ATC) is based on a built-in Peltier device that dramatically reduces the time necessary to achieve thermal stability of the sample. This enables the user to obtain a very high level of precision in a matter of minutes. Temperature of the manifold is controlled with a precision of  $\pm 0.01$  °C in a range between 18 and 35 °C.

# Product Specifications

<b>Sample Volume Capacity</b>	Approximately 20, 40 and 60 cc. (indicative maximum sample cup volumes)
<b>Optional sample volume capacity</b>	Extra Small (approximately 4 cc) and Extra Large (approximately 100 cc)
<b>Reference chamber volumes</b>	Approximately 20, 40 and 60 cc (indicative calibrated reference chambers)
<b>Temperature control range</b>	From 18 to 35 °C by an integrated Peltier Device, selectable by steps of 0.01 °C
<b>Temperature resolution</b>	Displayed resolution of 0.01 °C
<b>Temperature sensor number</b>	Three
<b>Temperature control stability</b>	+/- 0.01 °C (in the above temperature control range)
<b>Pressure transducer range</b>	From vacuum up to 250 kPa absolute reading
<b>Pressure transducer type</b>	Absolute, piezo-resistive sensor, temperature compensated, linearized
<b>Pressure displayed resolution</b>	0.001 kPa
<b>Pressure transducer stability</b>	+/- 0.002 kPa
<b>Purging procedures</b>	By continuous flow, gas pulses or vacuum
<b>Maximum cycles number per run</b>	100 (user's selectable)
<b>Calibration procedure</b>	Integrated, storing up to three set of calibrated volumes
<b>Calibration method</b>	By certified stainless-steel spheres
<b>Internal memory capacity</b>	Up to two complete runs made of up to 100 cycles each
<b>Typical reproducibility</b>	Better than 0.01 % at 20 °C on sample volume (evaluation on dry and thermally equilibrated samples, sample real volume filling at about 66 % of nominal vessel volume)
<b>Typical accuracy</b>	Better than 0.01 % at 20 °C on sample volume (evaluation on dry and thermally equilibrated samples, sample real volume filling at about 66 % of nominal vessel volume)
<b>Communication ports</b>	Serial port to computer, parallel port to printer for reporting, serial port to balance
<b>External gas connections</b>	Gas-in port (research grade helium or nitrogen), direct gas-out port and gas-out through restriction.
<b>User's interface</b>	Large backlit display, 40 characters x 4 lines, alphanumeric keyboard
<b>Environment conditions</b>	Temperature: 15 to 30°C, Humidity: 20 to 80% Rh
<b>Power supply</b>	85 - 264 VAC, 47 – 63 Hz
<b>Dimensions</b>	Width: 25 cm , Height 33 cm, Depth: 45 cm
<b>Weight</b>	17 kg

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