UltraPyc 1200e Powder density meter

https://search.labfacilities.wur.nl/SearchDetail.aspx?deviceid=07dcfd1d-f9b6-42e8-80bb-3c4202e02ee0

Brand

Quantachrome

Type

1200e

Contact

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Organisation

Agrotechnology and Food Sciences

Department

Food Process Technology

Description

The Pycnometer from Quantachrome is
designed to measure the true volume of solid materials by employing Archimedes' principle of fluid displacement and gas expansion (Boyle's Law). Ideally, a gas is used as the displacing fluid since it penetrates the finest pores assuring maximum accuracy.

Technical Details

User Protocol

- Turn the machine on and let it warm up for 1 hour
- Adjust the nitrogen flow to 131kP (1.3bar)
- Insert usb stick and chose for calibration and measurements that data is written on usb.
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Micro-Ultrapyc's
Adapter Sleeves, Cells (micro, meso, nano) and Cover.

- When pycnometer has not been used for 6 months, calibrate (press 2) Vadded:
- Chose to calibrate Vadded small
- Insert the micro cell (2nd from left on the picture)
- Wait 10 min
- Insert the volume (1.0725)
- Start (first part of calibration takes 30min)
- Insert large calibration sphere
- Wait 10
- Start (second part of calibration takes 30min)
- The added volume is around 1.66 cc
- Calibrate every day Vcell (press 2):
- Insert micro cell with one large calibration sphere
- Chose cell size small (enter) --> Enter the volume (1.0725) (enter) --> multi-run (2) (enter) --> max runs: 5 (enter) --> deviation:0.001 (enter) --> deviation: 0.001 (enter) --> print no (2) --> email no (2) --> usb yes (1) (enter)
- Calibrate Vcell small (takes 10min)
- Vcell is around 6.9 cc
- To start a measurement press 1:
- Weigh sample in micro cell (micro cell should be filled at least ¾. For first samples check that pycnometer works ok: measure density of sample when micro cell is filled for ¾ and when micro cell is filled completely).
- Insert sample and close lid
- measure (1) --> sample parameter (2) --> weight: .... (enter) --> id: ... (enter) --> start (3)