MICROTRAC
PARTICLE CHARACTERIZATION

CHIMICA CENTRO
ADDED VALUE LAB SOLUTIONS

BELPYCNO L

DENSITY PYCNOMETER

FULLY AUTOMATED AND HIGHLY ACCURATE DENSITY MEASUREMENT

part of VERDER scientific

SHORT MEASUREMENT TIME AND FAST SYSTEM STABILIZATION

FULLY AUTOMATED DENSITY MEASUREMENT OF POWDERS AND POROUS MATERIALS

The BELPYCNO L allows the accurate measurement of skeleton density of solids and powders as well as the true density of pastes and liquids. The combination of an internal temperature control and an absolute pressure transducer compensates any influences from ambient temperature and pressure fluctuations.

DETERMINATION OF THE DENSITY OF POWDERS AND POROUS SOLIDS

The BELPYCNO L is a fully automated instrument for the determination of the volume and density of powders, granulates, porous materials, mixtures, pastes and liquids. The BELPYCNO L replaces the classical method of liquid displacement utilizing a probing gas such as Helium which can reach even the smallest pores less than 1 nm diameter. Thus, the density of powders and porous materials can be determined exactly.

THE MEASUREMENT AND CALIBRATION PROCEDURES ARE FULLY AUTOMATED

The BELPYCNO L can work as a standalone instrument or being connected to a computer. The including software offers an easy programming from the computer, reporting and storage of data and analytical results.

In addition, for each measurement step the computed volume and density are displayed in situ.

BENEFITS

- Built-in linearized absolute pressure transducer
- Sample cell and reference volumes are separated from the electronics
- Built-in accurate ATC (Automatic Temperature Control)
- Short measurement time and fast system stabilization
- Unrivalled reproducibility of results

DENSITY PYCNOMETER BELPYCNO L

ACCURATE DENSITY DETERMINATION FOR VARIOUS APPLICATIONS

The BELPYCNO L pycnometer is equipped with up to 3 reference chamber volumes (approx. 20, 40 and 60 cm^3) in order to give the best performance in combination with the chosen sample chamber (approx. 4, 20, 40, 60, 100 and 135 cm^3). Independent of ambient temperature and pressure variations, the BELPYCNO L allows measurements which are not limited by time consuming calibration procedures.

Once calibrated the pycnometer carries out the analysis without any concerns. No contamination risks due to gas loading from reference chamber (high pressure) into sample chamber (low pressure), supported by programmable discharge restriction and easy use of paper filters. Variable loading pressure permits the analysis of foams and compressible samples.

APPLICATIONS

Powders | Wood | Building materials | Catalysts | Liquids and pastes | Active carbons | Food and pharmaceuticals

...and many others

FEATURES

BUILT-IN FINE POWDER OPTION

- Programmable discharge restriction and easy use of paper filters to prevent powders dragging by pressure drop, thus reducing maintenance.

GAS LOADING FROM REFERENCE CHAMBER (HIGH PRESSURE) INTO SAMPLE CHAMBER (LOW PRESSURE)

- No contamination of reference chamber with fine powders or condensed liquids.
- Feature of variable loading pressure permits the analysis of foams and compressible samples.

BUILT-IN MULTI VOLUME CAPABILITY

- Easy choice of the best configuration according to sample volume and nature In addition, for each measurement step the computed volume and density are displayed in-situ.
- No requirement for instrument modifications.

BUILT-IN LINEARIZED ABSOLUTE PRESSURE TRANSDUCER

- Independent of ambient pressure fluctuations from climate or in low-pressure labs.

SAMPLE CELL AND REFERENCE VOLUMES SEPARATED FROM THE ELECTRONICS

- Unit can be installed in a glove box e.g. for use with radioactive samples.

BUILT-IN ACCURATE ATC (AUTOMATIC TEMPERATURE CONTROL)

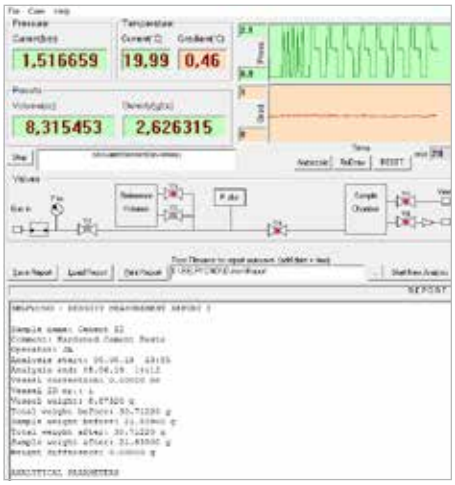
- Constant temperature independent of ambient fluctuations
- Maintenance free
- No external thermostat necessary
- Various temperatures possible

TECHNICAL INFORMATION

BELPYCNO L

Reference chamber volumes	Approx. 20, 40 and 60 cm^3
Sample chamber volumes	Approx. 4, 20, 40, 60 , 100 and 150 cm^3
Probe gas	Helium (other inert gases possible)
Control	Integrated micro processor
Keyboard	Alphanumeric foil
Display	4-line 40 characters LCD-display with back light
Pre-treatment	Flow, programmable purge cycles optional with vacuum preparation
Temperature	14° C to 40° C (optional 60° C with external oven) resolution ± 0.01° C
Pressure transducer	0.001 kPa displayed resolution
AD-converter	19 Bit
Accuracy	0.01 %
Reproducibility	0.01 %
Vacuum connector	KF-10
Interfaces	2 x serial (external balance, PC-data transfer), 1 parallel (printer)
Sensor (optional)	Humidity
Power supply	AC 100 - 240 V (240 W), 50 / 60Hz
Dimensions (W x H x D), weight	250 mm x 330 mm x 450 mm, 17 kg

Results at a glance:



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icrotrac Retsch GmbH | 980.2027/E | 07-2023

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