

Specifications of the POROLUX 1000

Liquid displacement Porometer for the rapid measurement of through-pores in materials such as porous membrane, filters, paper, plastics, thin film and many other applications.

Based on many years of experience in porometry, Benelux Scientific has developed the POROLUX 1000, a capillary flow porometer with superior specifications, excellent instrument reproducibility and an unmatched ease-of-use.

System details

Measurements

The POROLUX 1000 measures bubble point, maximum pore size, mean flow pore size, minimum pore size, average pore size distribution of uniform materials and air permeability.

Pore Size Range

Measurable pore size range from +/-15 nm to 300 μm equivalent diameter (depending on the wetting fluid).

Standard Pressure Range and Flow Rates

0-35 bar with flow rates of up to 200 liters per minute.

Sample Holders

The POROLUX 1000 comes with 3 sample holders: 13mm, 25mm and 47mm. Switching between sample holders is done in a matter of seconds via a quick coupling connection. The availability of 3 sample holders allows the user to analyze a wide range of structures.

Hardware

The Porolux 1000 comes standard with **3 flow meters**:

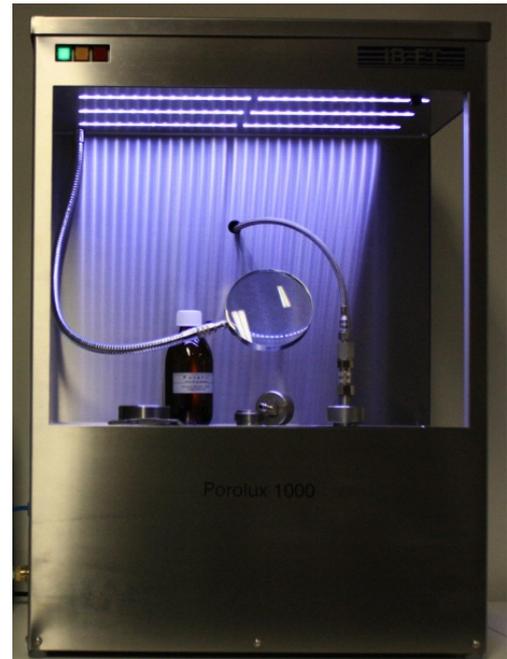
- 30 ml/min (for accurate bubble point detection)
- 10 liters/min
- 200 liters/min
- Automatic switch between the flow meters

The Porolux 1000 comes standard with **2 pressure transducers**:

- 5 bar (75.5 psi)
- 50 bar (725 psi)
- Automatic switch between the pressure transducers

Methods of obtaining bubble point:

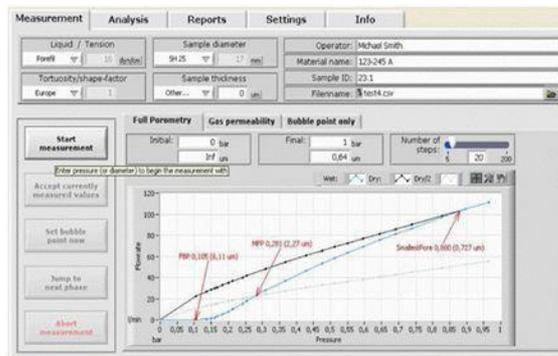
- **Measured bubble point** (selectable flow rate to detect the bubble point: 5-30 cc/min)
- **Calculated bubble point** 20, 50, 100ml/min or differential size



Software

The Porolux 1000 uses LabVIEW software, a commonly used graphical programming system for data acquisition and instrument control, and offers a very intuitive selection of all analysis parameters:

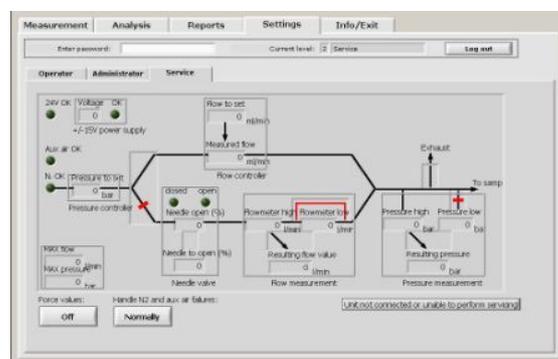
- Type of wetting fluid
- Sample diameter
- Tortuosity factor
- Sample thickness
- Start en end pressure or max and end min diameter (auto conversion)
- The software also has the unique option to select the **number of pressure steps**. This way the user can easily obtain more data point and thus improve the resolution for the pore size distribution.
- Advanced instrument settings allow the user to:
 - o Select the sensitivity for the bubble point detection
 - o Multiple stability algorithms for pressure and flow



Data analysis includes:

- Comprehensive overview of all relevant results and input parameters
- Wet, dry and half-dry graph
- Cumulative flow and pore size distribution bar graph
- Curve overlay
- One button export to Excel, Word and pdf file

Advanced service menu facilitates **diagnosis and service via Internet**.



Wetting Liquid

One bottle (125 ml) of Porefil Wetting Fluid, an inert, non-toxic, fluorocarbon wetting fluid for best overall performance. Porefil Wetting Fluid exhibits a zero contact angle for most accurate results. Other wetting liquids are available on demand.

Dimensions

- Length: 510mm
- Width: 510mm
- Height: 755mm
- Weight: 50kg

Certifications

CE Marked: Conformation Declaration Statement for:

- Electromagnetic Compatibility Directives 89/336 EEC and 93/31 EEC (CEE)
- Low Voltage Equipment Directives 73/23 EEC and 93/68 EEC (CEE)

Product manufactured in Germany by IB-FT.

Line voltage (90 - 230 V, 50 - 60 Hz, single phase)