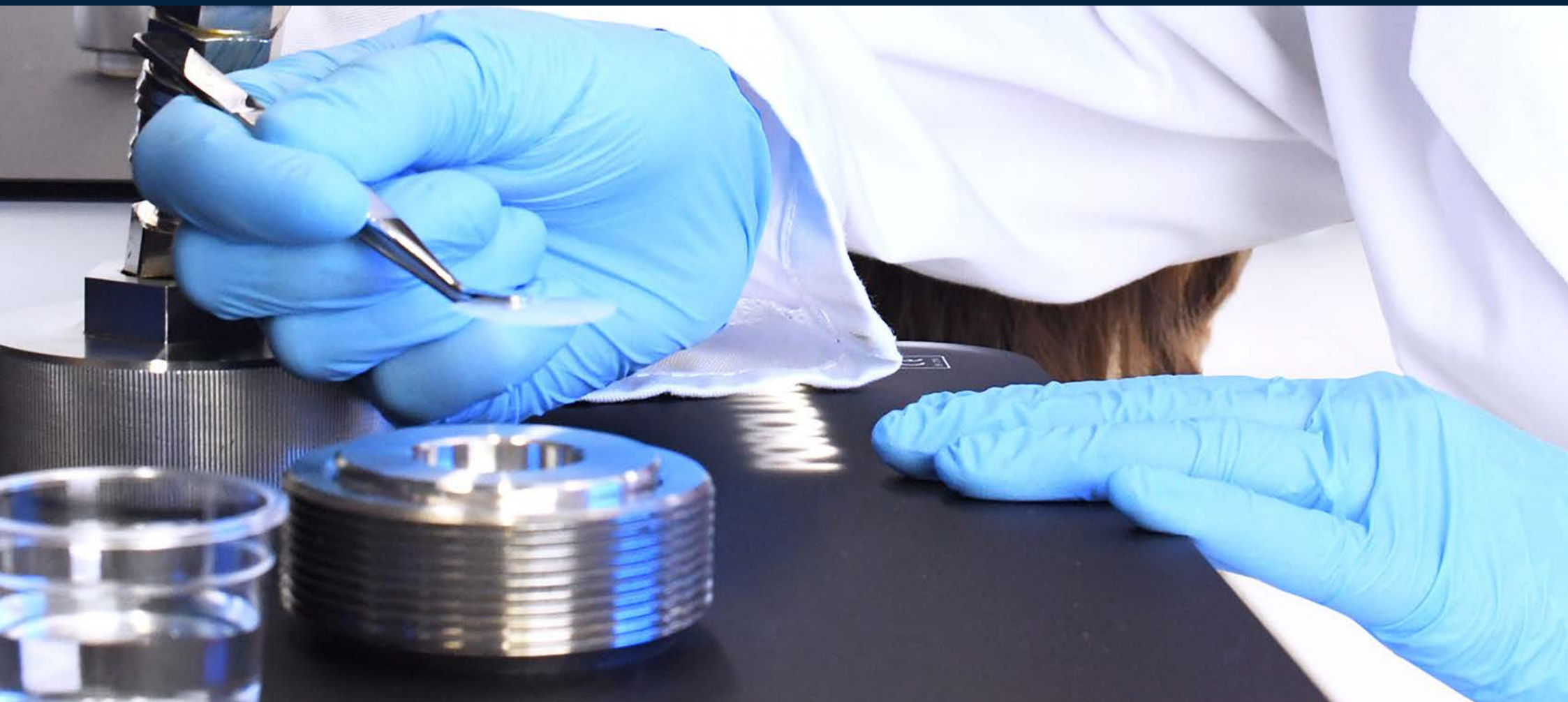




Leaders in porometry
Technology and expertise combined








Aptco Technologies is specialized in the manufacturing and supply of measuring and testing instruments as well as sample preparation equipment for laboratories.

Our competence to design, develop and manufacture in-house hardware and software solutions allows us to respond readily to the demands of specific applications and markets. We complement this offering by partnering with high quality brands to guarantee our customers the best solution for their needs.

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 www.porometer.com



5

locations

45+

countries with a Porometer

1,000+

samples analyzed in our labs

About Porometer

Porometer was founded in 2007 with the purpose of bringing better porometers to the market. Since our start, we have been transforming the world of porometry.

We make the best and most qualitative porometers in the market and help our customers design and produce the best filter media possible.

With our worldwide presence and dedicated application labs, we serve our customers on a global scale. This makes us truly

**Leaders in porometry.
Technology and
expertise combined.**



We live and breathe porometry

At Porometer, we live and breathe porometry. By delivering the highest quality and most reliable instruments for pore size analysis, as well as by providing our customers the advice and support they need. We do this day in, day out guided by our values:

- expertise
- dedication
- customer centricity
- excellence

Our porometer instruments are designed and manufactured in-house by our engineering and production department in Germany.

The Porometer brand is owned by Aptco Technologies, a manufacturer of measurement instruments and testing equipment for academic and industrial quality control and research labs.

Aptco Technologies is part of Aptco Group, an international technology group of companies active in the distribution, manufacturing, servicing and calibration of scientific instruments and equipment for industrial, medical and academic laboratories.

Why work with us

As our name implies, we are all about porometers! That's why getting one of our instruments guarantees you not only the best porometer in the market, but also lifelong support and access to our expert's know-how.

We exist to help our customers achieve reliable, accurate and reproducible results while experiencing the joy of working with the very best porometer!



Wide range of solutions

We can recommend the best porometer instrument for any given application as we have all common capillary flow techniques in-house. Moreover, we cover the widest pore size range, from 500 μm down to 2 nm.



Global presence

Porometer has a global presence, with manufacturing sites, labs and offices in Europe, USA and China. Furthermore, we have an extensive network of highly trained distributors around the globe.



Training

We believe that our value is not only in our devices, but also in the knowledge and unique insights that we bring you in our trainings.



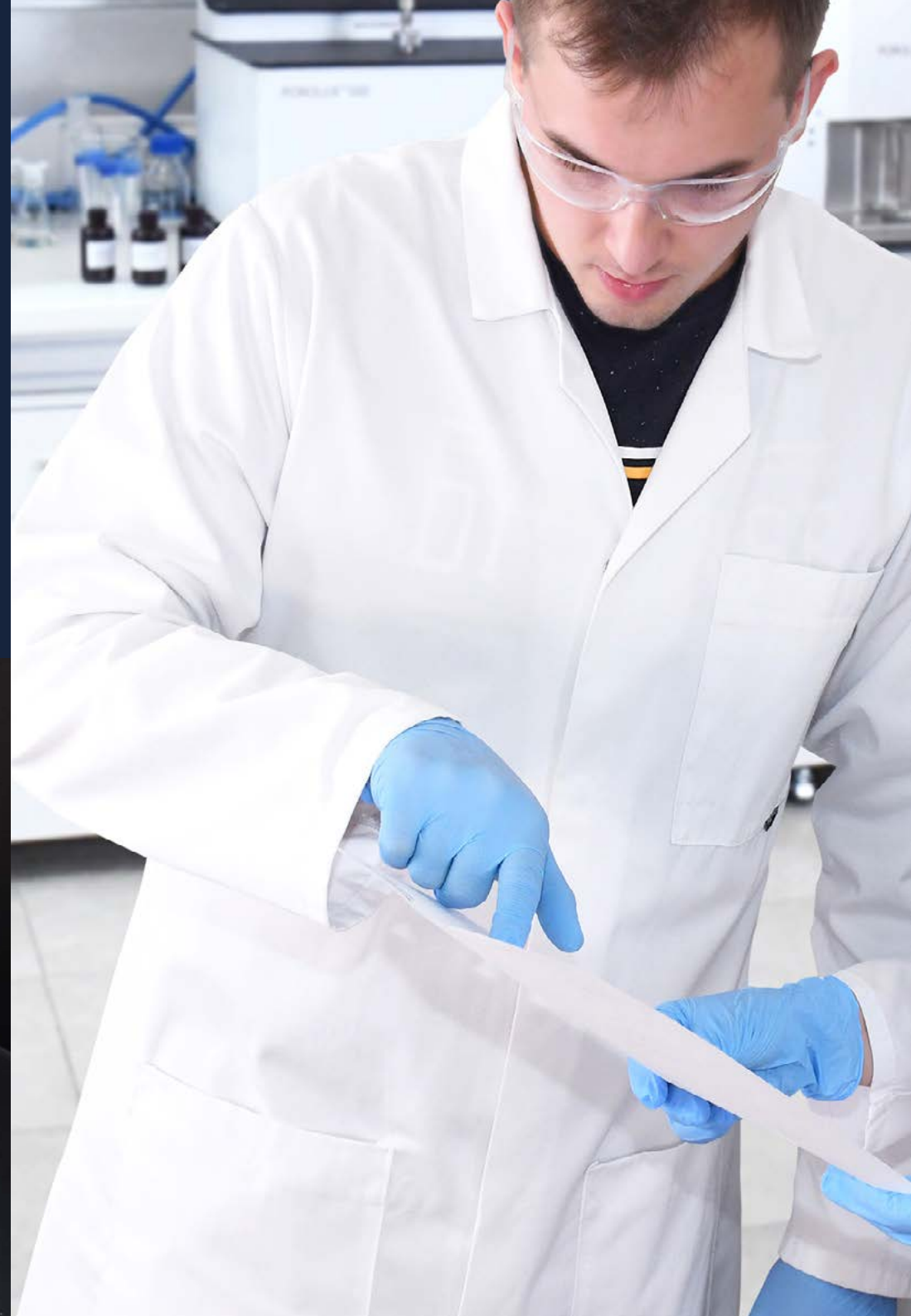
After sales support

Purchasing a Porometer does not only mean acquiring a device, it also guarantees lifelong support and advice from our team of porometry experts.



Experts in porometry

Measuring daily in our labs for over 15 years allowed us to gain a lot of knowledge and insights in porometry. Knowledge we like to share with our customers by, amongst others, helping to find the right settings for the samples.

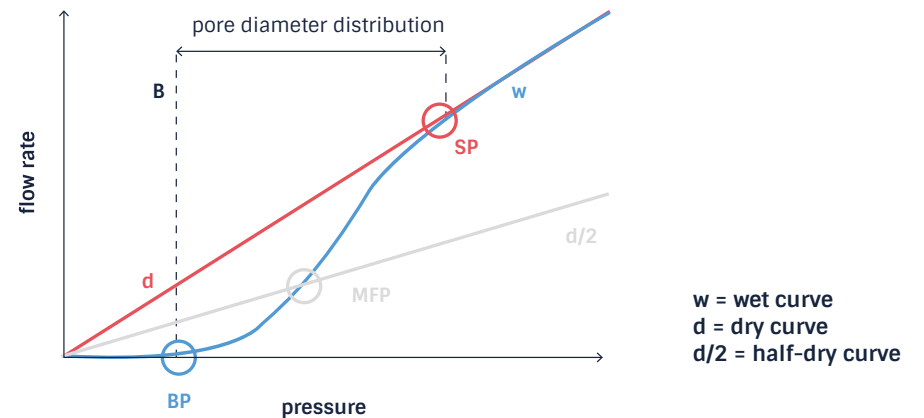




Porometry explained

Capillary flow porometry is a characterization technique used to measure pore size and pore size distribution of through pores in filtration and separation materials. The technique is based on the displacement of an inert and nontoxic wetting liquid embedded in a porous network by applying an inert pressurized gas.

Larger pores become empty first and, as the applied pressure increases, so do the smaller ones until all through pores are empty. The diameter measured in capillary flow porometry is the pore throat, regardless of where it exactly in the pore path is.



Our porometers measure, amongst others:

- Largest pore (BP)
- Mean flow pore size (MFP)
- Smallest pore (SP)
- Pore size distribution
- Cumulative flow distribution
- Gas permeability

Wide range of applications

Our porometers are indispensable, both for R&D and quality control purposes, to characterize the pores of a wide range of materials:

- Flat sheet and hollow fiber polymeric membranes
- Nonwovens, precision fabrics and textiles
- Ceramic membranes and tubes
- Metallic membranes, porous metal discs, (sintered) metal fiber media
- Specialty paper
- etc.



Our portfolio



POROLUX™ BP

The POROLUX™ BP is a bubble point tester, used to measure the largest pore size – often referred to as ‘bubble point (BP)’ – in media that are used for filtration and separation applications.

POROLUX™ BP delivers quick and accurate results of the bubble point in the pressure range from 0 bar (0 psi) up to 5 bar (75 psi) and detects pores from ca. 300 µm down to 0.13 µm.



Thanks to its simplified operation, the POROLUX™ BP provides highly reproducible results for both the BP dPL (bubble point measured as a deviation from the linearity of a user defined pressure increase) and BP x-ml (bubble point measured at a user defined flow rate). This makes the POROLUX™ BP a clear choice for quality control and/or R&D in many companies producing filtration and separation media.

- **Bubble point measurement only**
- **Quick and easy determination of the first bubble point**
- **For pore sizes down to 0.13 µm**

POROLUX™ BP	
Measurement mode	Bubble point only
Max pressure	5 bar/75 psi
Min pore (1)	0.13 µm
Max pore (1)	300 µm
Flow range	150 ml/min
First bubble point	BP dPL and BP x-ml (*)
Dimensions (DxWxH)	350x400x350 mm
Weight	10 kg

(1) depending on the wetting liquid

(*) BP dPL is the bubble point measured as a deviation from the linearity of a user defined pressure increase. BP x-ml is the bubble point measured at a user defined flow rate.

POROLUX™ Cito series

The POROLUX™ Cito series are gas liquid porometers (GLP) that determine pore sizes based on the pressure scan method. This is a fast, yet reproducible method whereby air pressure is continuously increased while the resulting flow rates are recorded simultaneously.

The instruments determine the first bubble point, mean flow pore size, smallest pore, pore size distribution, cumulative flow distribution & gas permeability with the highest accuracy in the whole pressure range.



The POROLUX™ Cito L & M are the reference in R&D and quality control environments to characterize media with larger pores such as nonwovens and textiles. Thanks to its broader measurable pore size range, the POROLUX™ Cito is used to measure a wider variety of filtration and separation materials, including membranes, both in R&D and quality control.

- **Gas-liquid, pressure scan measurement method**
- **Designed to deliver fast & reproducible results**
- **For pore sizes down to 13 nm**

	POROLUX™ Cito		
	Cito L	Cito M	Cito
Technique	Gas-liquid porometry		
Measurement method	Pressure scan		
Max pressure	1.5 bar/22 psi	7 bar/100 psi	35 bar/500 psi
Min pore (1)	0.427 µm	0.091 µm	13 nm
Max pore (1)	500 µm		
Max flow	200l/min		
Dimensions (DxWxH)	530x530x560 mm		
Weight	30 kg	30 kg	35 kg

(1) depending on the wetting liquid

POROLUX™ Revo



The POROLUX™ Revo is the revolution in porometry. Setting the bar in step/stability method with our patent pending MP² (Multistage Pressure Process) technology, the POROLUX™ Revo delivers the most accurate and reproducible pore size measurements, in the highest resolution.

Thanks to its cutting-edge software, analyzing filter media with the POROLUX™ Revo is very straightforward. Built-in intelligence and unique features such as the re-evaluation function make the instrument a pleasure to work with.



The POROLUX™ Revo is the right instrument to characterize a wide range of materials with complex pore structures, such as polymeric membranes (flat sheets and hollow fibers), ceramic membranes, porous metals and nonwovens.

- **Gas-liquid, pressure step stability method with patent pending MP² technology**
- **The most accurate pore size results combined with high resolution**
- **For pore sizes down to 13 nm**

POROLUX™ Revo	
Technique	Gas-liquid porometry
Measurement method	Pressure step/stability with patent pending MP ² technology
Max pressure	35 bar/500 psi
Min pore (1)	13 nm
Max pore (1)	500 µm
First bubble point	BP dPL, BP x-ml, BP pCF (*)
Max flow	200l/min
Dimensions (DxWxH)	530x530x755 mm
Weight	70 kg

(1) depending on the wetting liquid

(*) BP dPL is the bubble point measured as a deviation from the linearity of a user-defined pressure increase. BP x-ml is the bubble point measured at a user-defined flow rate. BP pCF is the bubble point measured as a user-defined percentage of the cumulative flow.

POROLIQ™

The POROLIQ™ is a liquid-liquid porometer (LLP) that determines pore sizes based on the pressure step stability method. This means that a data point is only accepted on the condition that the user-defined stability algorithms for pressure and flow are met.



The POROLIQ™ – widely regarded as the most accurate liquid-liquid porometer on the market – is very well suited to detect very small pores, as well as to characterize pressure sensitive membranes such as hollow fibers.

- **Liquid-liquid technology**
- **Designed to measure the smallest pores in the most fragile samples**
- **For pore sizes down to 2 nm**

POROLIQ™		
	AQ	ML
Technique	Liquid-liquid porometry	
Measurement method	Pressure Step/stability	
Max pressure	40 bar/580 psi	
Min pore (1)	2 nm	
Max pore (1)	0.3 µm	1 µm
Flow range	< 1µl/min - 10 ml/min	1µl/min - 10 ml/min
Dimensions (DxWxH)	510x510x760 mm	
Weight	80 kg	
Displacement liquid	water-based	multiple liquids

(1) depending on the liquid combination

The Porometer software

Very intuitive and easy to use software

Even though our software is powerful and comprehensive, it's also very intuitive and easy to use.

By allowing to change many parameters with a click of the mouse, the software enables its many users to tune the measurement to their exact needs. Additionally, the software, with built-in intelligence, gives the user access to many advanced functions, such as the re-evaluation function and the observation window.

Furthermore, our porometers are equipped with an onboard ethernet port allowing remote access via the internet for installation, support and diagnosis.

Straightforward and presentable output

With one click of the button, results are exported in word, excel or pdf. The Porometer software makes it very easy to present multiple measurements next to each other, allowing for a straightforward comparison between different filter media. Thanks to the adjustable scales, graphs such as wet and dry curve and pore size distribution are presented in a very clear and sophisticated manner.





What our customers say about us

“As a filtration product manufacturer, characterization of through-pore metrology is key to supporting our customers in their applications. Porometer has emerged as a key partner in supplying high-quality, reliable instrumentation with an ease of use that permits us to focus on the critical questions associated with our business. The support from technical, financial, and scientific perspectives that Porometer has brought to the table expands our capabilities significantly. We look forward to their continued product developments and offerings which provide new characterization tools in membrane sciences.”

**Curtis Guild, PhD Lead Analytical Scientist Upstream
Bioprocess R&D, Cytiva**



Some of our customers

 BEKAERT Imperial College
London **Ames** GRUNDFOS ALFA
LAVAL P&G FREUDENBERG
INNOVATING TOGETHER Fraunhofer Donaldson
FILTRATION SOLUTIONS SOLVAY
asking more from chemistry™ RWTH AACHEN
UNIVERSITY DUPONT M
MERCK MILLIPORE emi
twente Berry NAMI
National Alliance on Mental Illness NB / TEMPO
FILTRE KAUST SAATI HV
Hollingsworth
& Vose BITRI AHLSTRÖM
MUNKSJÖ جامعة خليفة
Khalifa University FRESENIUS
MEDICAL CARE 3M KU LEUVEN cytiva SIEMENS Parker



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