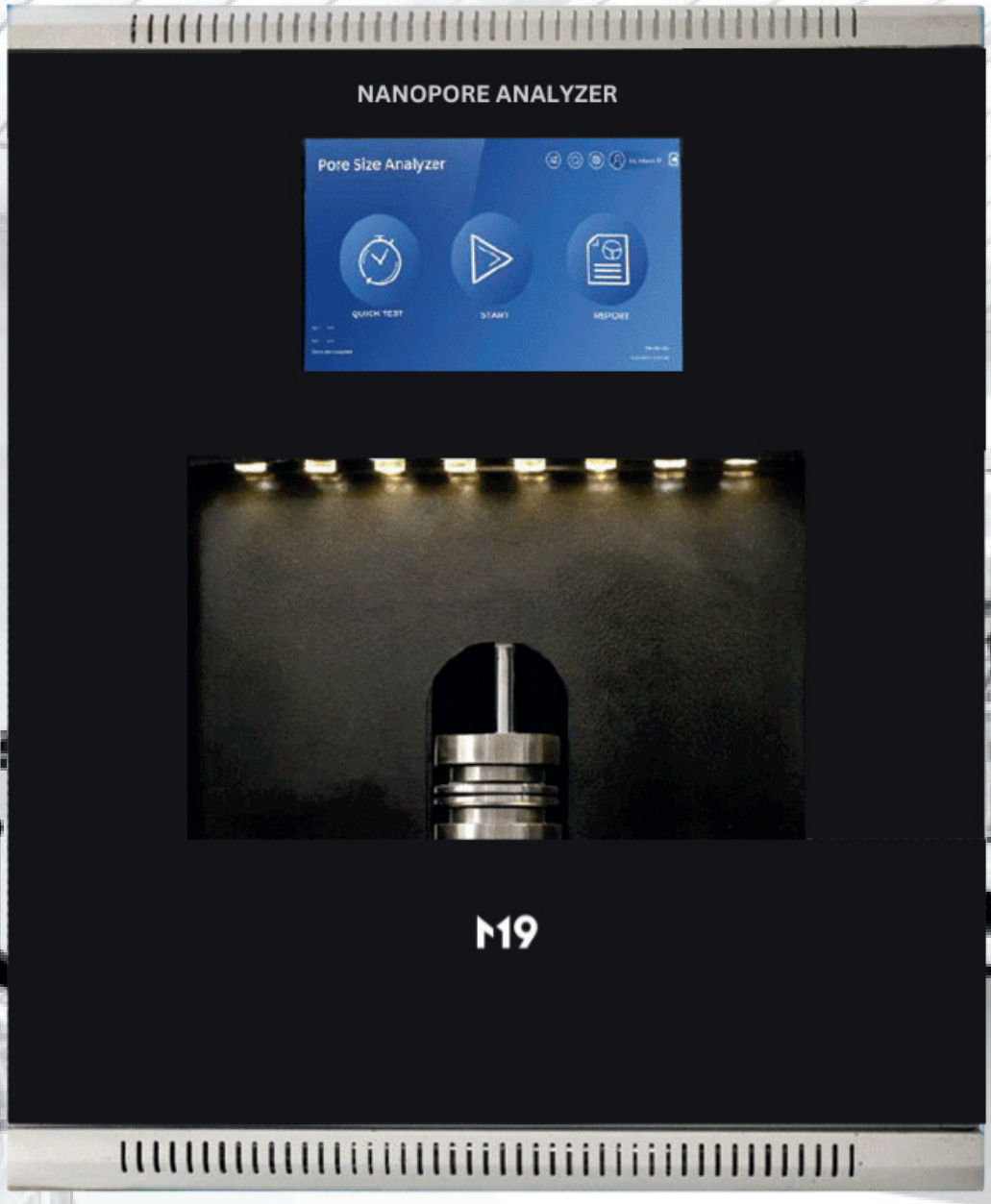
MATERIAL
INTELLIGENCE
LAB

NANOPORE ANALYZER

USING CAPILLARY FLOW, POROMETRY TECHNIQUE



INNOVATIVE HARDWARE DESIGN

The hardware system has evolved into a highly sophisticated instrument with increased ease-of-operation, data accuracy, reliability and
end-to-to automated operation.

The improved hardware design achieves a reproducibility better than 0.5%. Linearization of measured pore size with the voltage signal is achieved using a accurate A/D convertor. Industry specific customized sample chamber are available depending upon the shape and size test specimen.

TEST STANDARDS

ASTM6767, ASTMF316

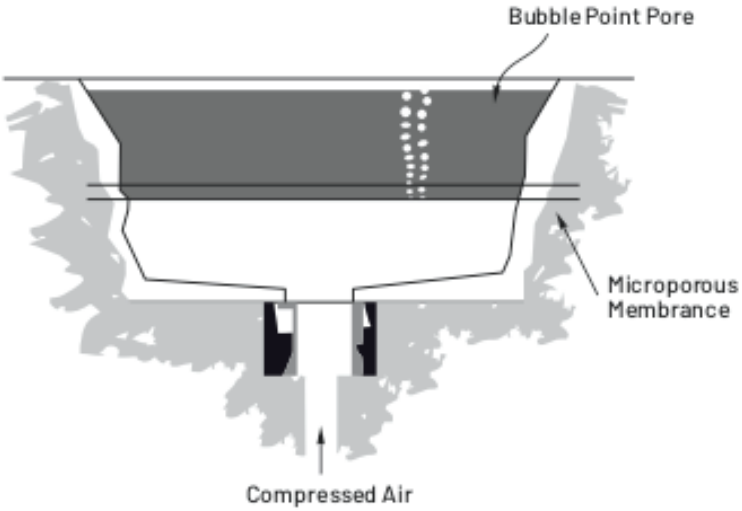
SIMPLE

INTELLIGENT

MORE INTEGRATED

OPERATING PRINCIPLE

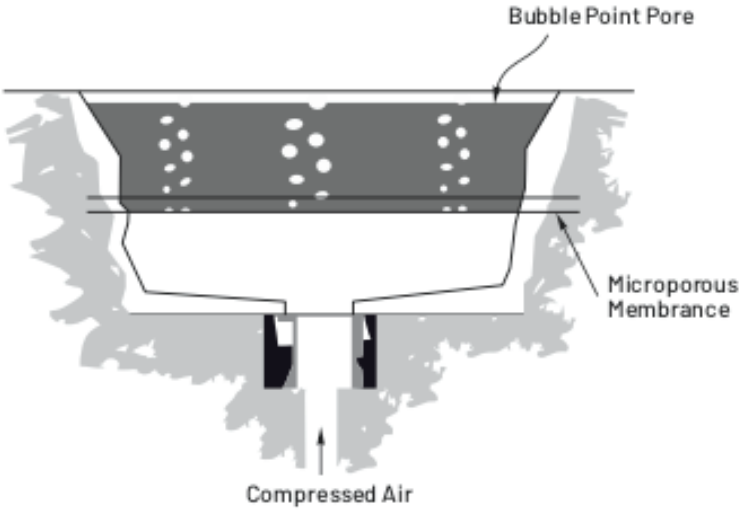
Gas-liquid porometry is the most common method for characterizing flat specimen media or filtration membranes. Bubble Point is based on the fact that liquid is held in the pores of the test media. Using Capillary flow porometry/liquid expulsion technique, the simple principle of gas pressure to force a wetting liquid out of through pores in a sample. The pressure at which pores empty is inversely proportional to the pore size, larger pores require a lower pressure than do smaller pores. The resulting volumetric flow of gas through emptied pores is also measured. Pore size is then calculated using the Washburn Equation.



THE WASHBURN EQUATION

D= 4K cos/ P

Test Standards: ASTM 6767 & ASTM F316



SYSTEM PROCEDURE

Step 1

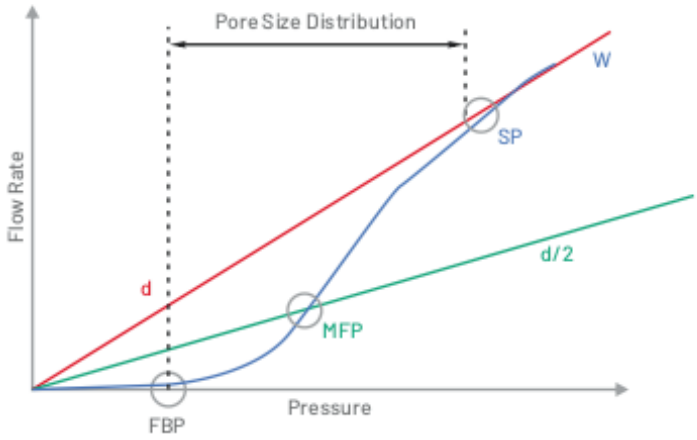
User will wet the filter media with an appropriate fluid secure it inside the sample chamber.

Step 2

System pressurizes one side of the media incrementally, until bubble point is reached. Bubble point pressure is recorded and bubble point diameter is computed using Washburn Equation.

Step 3

System increases the until flow through the wet media is equal to the flow through a dry media. Pore size distribution is computed once dry flow and wet flow.



SPECIFICATION

SPECIFICATIONS	NANOPORE UNI-EDITION	NANOPORE ANALYZER PRO	NANOPORE ANALYZER WORKSTATION
Min. Measuremnt range	0.1um	0.01um	0.0013um
Max. measurement range	500 um	200um	300 um
Pressure range	110 psi	250 psi	500 psi
Sample Chamber	Standard	Standard	Custom made
Flow Range	Upto 108 ipm	Upto 200 Sipm	Upto 200 Si pm
A/D Resolution	24 bit	24 bit	24 bit
Pressure Accuracy	0.15%	0.15 %	0.15 %

GASES	ELECTRICAL/ ENVIRONMENTAL	ACCESSORIES
Gas Compatibility: Air, N2	Voltage: 230V	Sample Holer Plates
Input Pressure: 100/500 psi	Frequency: 50 Hz	Test Fluid
Connection: Quick Connect/Push Fitting	Connection: Grounded 3- pin Connector	Vacuum Grease O-Ring Seals

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