thermoscientific

Phenom FiberMetric Software

Better, faster fiber analysis

ThermoFisher
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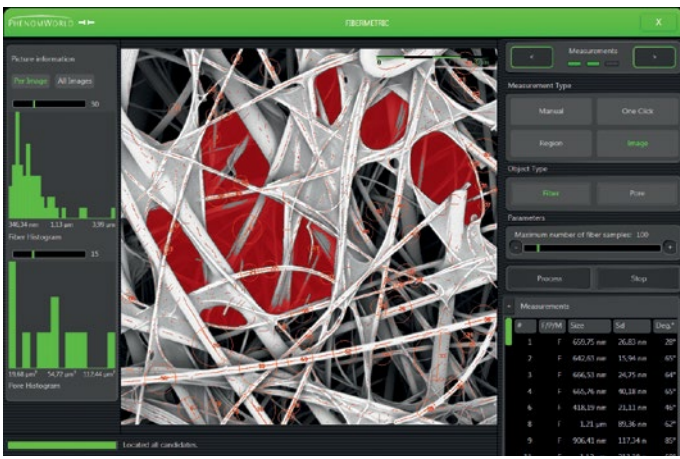
FiberMetric user interface with fiber and pore measurements
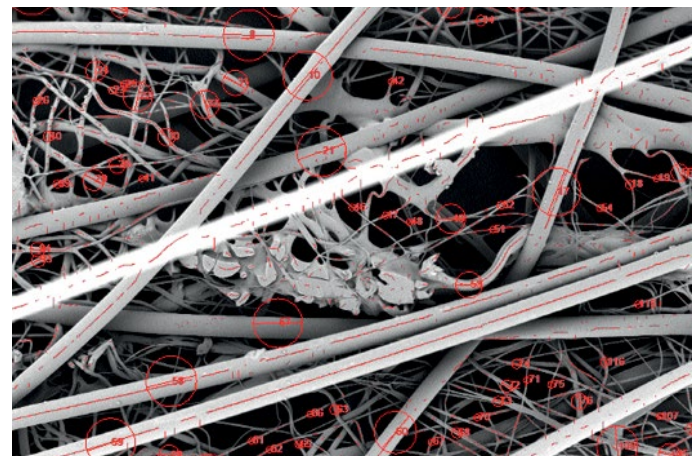
Spun bond and melt blown fiber sample analyzed with the FiberMetric

Direct observation and measurement of micro and nano fibers is faster, better and easier than ever before, with the improved Thermo Scientific™ Phenom FiberMetric software application.

Phenom Desktop SEM

In combination with the Phenom desktop scanning electron microscope (SEM), the Phenom FiberMetric sotware application allows you to produce accurate size information from micro and nano fiber samples. Recent developments enabled us to extend the range of measurements of the FiberMetric application providing even more in-depth information. It is possible to measure and analyse complicated fiber structures, ranging from spunbond and electrospun fibers to the melt blown type fibers.

The automated image characterization generates hundreds of measurements in seconds. In addition to more accurate data acquisition, the automated measurements of the FiberMetric application guarantee a fast return on investment (time savings compared to previous manual measurements; operator independent; more consistend data). The automated feature and fiber size detection has made FiberMetric even more user friendly and further improved the time to result. With the FiberMetric it has become possible to measure and analyze samples with large fiber diameter differences.

FiberMetric automatically analyses hundreds of data points that provide solid statistical analysis. This data is displayed in various formats like an interactive fiber and pore size distribution histogram. All data are exportable to common formats for offline customized analysis.

FiberMetric allows the user to export the histogram faster in a variety of formats. The functionality of creating screenshots has been extended, making the actual representation ready to be used for reporting and in presentations. The measurement algorithms have been improved, providing more accurate and reliable outcome of the analysis.

The FiberMetric application can be used on fibers ranging from 100 nm to 40 μm. It therefore can be used for a wide range of applications, like investigation of filtration materials, diaper paddings, fiber research, and fiber and filter production control.

The FiberMetric application generates all the statistical data you need, without an elaborate laboratory infrastructure or specially trained operators.
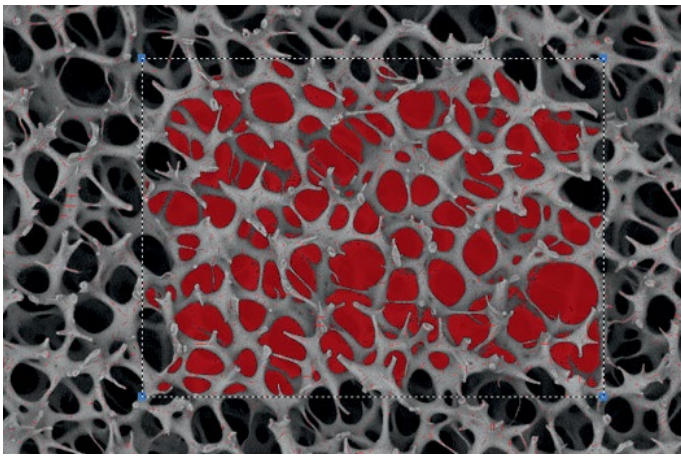
Automated pore measurements on a polymer membrane sample. A pre-defined area of pore measurements has been highlighted
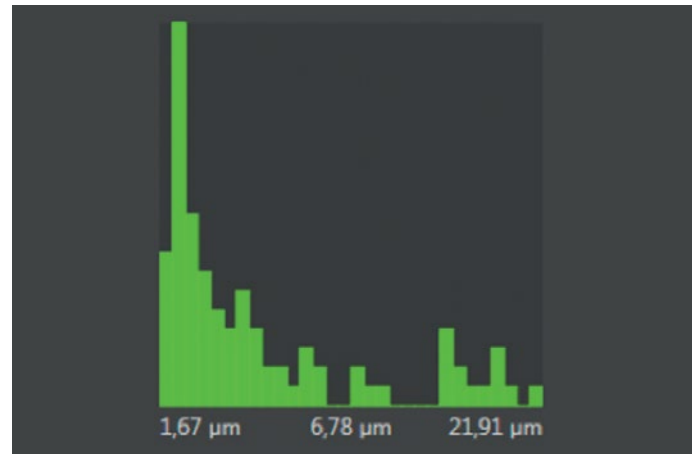
Measurement results are represented in the histogram. The user can define the number of bins in the histogram. The min/max and average fiber size are displayed below the histogram

Benefits

- Save time by automated measurement
- Fast and automated collection of all statistical data
- Large range of fibers and pores to be measured
- Export all collected data, either statistically or as a raw data-file
- View and measure micro and nano fibers with unmatched accuracy
- Operator-independent measurements
- Real-time Phenom desktop operation

Imaging Specifications
Fiber Detection
- 100 nm to 40 μm
- 1 to 1000 measurements per image
Output
- XML-data file (incl. diameter measurements and pore surface areas)
- JPG, TIFF
- Max. 1024 x 1024 pixel image
- Customized fiber and pore distribution histogram
- Minimum, maximum and average fiber size
- Standard deviation
- Fiber orientation
Part of ProSuite
- Network storage enabled
- Phenom integrated system

ParticleMetric

The Phenom desktop SEM with ParticleMetric software allows easy generation and analysis of SEM images. The integrated ParticleMetric software allows the user to gather morphology and particle size data for many submicron particle applications. The fully automated measurements of ParticleMetric allow a level of visual exploration beyond optical microscopy that can lead to new discoveries and innovations in powder design, development, and quality control.

PoroMetric

The Phenom desktop SEM with PoroMetric software allows easy generation and analysis of SEM images. The integrated PoroMetric software allows the user to gather data on distribution of pores, and pore parameters like pore size and aspect ratio.

PoroMetric allows the user to get a better understanding of the characteristics of the materials, as it extracts detailed information of the complete set of pores. PoroMetric is the in its class when it comes to measurements of pores.

ParticleMetric

PoroMetric

ParticleMetric Specifications	
Pore analysis	
Particle size range	100 nm - 0,1 mm
Particle detection speed	Up to 1000 pores per minute
Measured properties	Size, shape, count
Particle parameters	

Area, circle equivalent diameter, surface area, circumscribed circle diameter, volume by area, circumference, aspect ratio, circularity, elongation, grayscale, major axis, minor axis, convex hull, gravity centre (x,y), pixel count, convexity.

Graphical display

- Plot graphs in linear log or double log scale, by number or by volume
- Scatter plots of any given parameter
- SEM image of individual particle

Output

Report in docx format, TIFF image format, CSV file, Project file (.POME) for offline analysis

Part of ProSuite

- Network storage enabled
- Phenom integraded system

PoroMetric Specifications	
Pore analysis	
Pore size range	100 nm - 0,1 mm
Pore detection speed	Up to 1000 pores per minute
Measured properties	Size, shape, count
Pore parameters	

Area, circle equivalent diameter, aspect ratio, major axis, minor axis and manual measurement

Graphical display

- Plot graphs of the circle equivalent diameter
- SEM images and detected pores

Output

Report in docx format, TIFF image format, CSV file, Project file (.POME) for offline analysis

Part of ProSuite

- Network storage enabled
- Phenom integraded system

Find out more at **thermofisher.com/phenomworld**

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