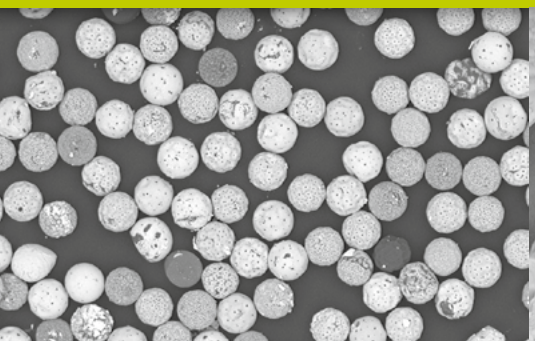
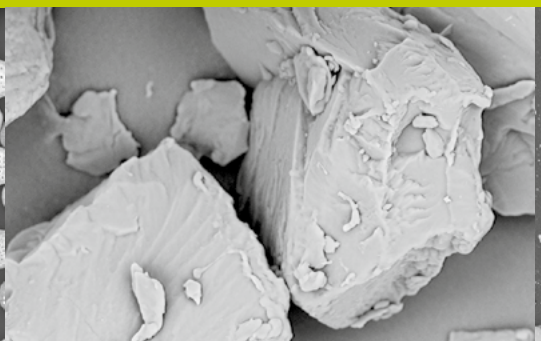
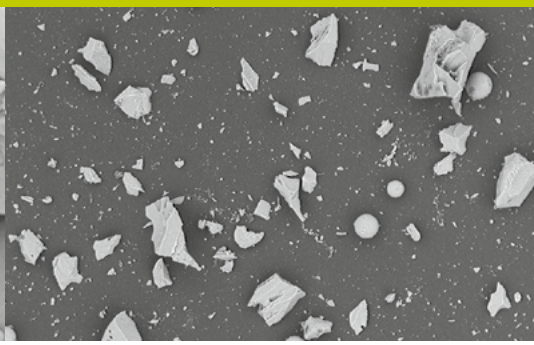
Phenom ParticleMetric Software

Powerful Tool for Inspection of Particles and Powders

PHENOM PARTICLEMETRIC
Fully automated measurements

REPORTING TOOL
Easy exporting of data for reporting

PRO SUITE
Integrated software in Pro Suite

NEBULA I
Dry powder particle dispenser

The visualization and analysis of particles are easier than ever before with the Phenom desktop SEM and the ParticleMetric software.

Overview processed images

Screenshot with histogram selection

The visualization and analysis of particles are easier than ever before with the Phenom desktop SEM and the ParticleMetric software. The combination of speed, ease of use and superb imaging quality of the Phenom with the imaging and particle analysis of ParticleMetric creates a powerful tool for inspecting a wide range of particle and powder samples.

PARTICLEMETRIC SOFTWARE

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.

The histograms, scatter plots and generated images can be exported in the selected format to be used as a reporting tool. Histograms of any measured particle property can be generated by numerical value and volume.

Scatter plots can be plotted from any combination of particle properties to reveal correlations and trends. The Phenom particle analysis solution allows users to obtain the data they need, when they need it. As a result, ParticleMetric accelerates particle analysis and improves product quality.

PARTICLEMETRIC SPECIFICATIONS

PARTICLE ANALYSIS

Particle size range	100nm – 0,1mm
Particle detection speed	Up to 1000 particles 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

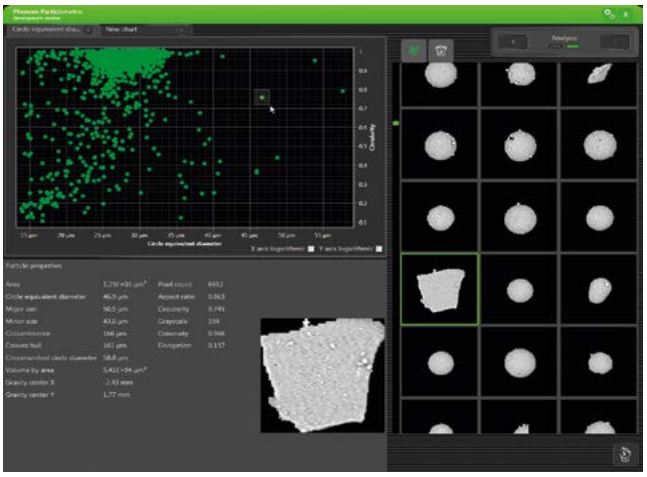
Plot graphs in linear, log or double log scale, by number or by volume
Scatter plots of any given parameter
SEM image of individual particle

OUTPUT

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

PART OF PRO SUITE

Network storage enabled
Phenom integrated system



Screenshot with scatter plot selection

Introducing the powder in the Nebula I for a proper dry dispersion

MAIN ADVANTAGES OF PARTICLEMETRIC SOFTWARE

- Integrated software in Pro Suite
- Acquire images directly from the Phenom
- Identify and confirm phenomena such as broken particles, agglomerates and foreign particles.
- Correlate particle features such as diameter, circularity, aspect ratio and convexity.
- Fast and convenient operation improves workflow and makes scheduling simple and predictable.
- Image collection is limitless as digital files are easily stored on a network or USB disk for data sharing, communication, or later reference.
- The Phenom's ease of use and ability to operate in any environment means anyone can use it to visually interpret a wide range of samples.
- Statistical data with high-quality images.

NEBULA I

With the Nebula I™, a standard method for uniform dry powder dispersion on SEM stubs becomes available. The Nebula I ensures best sample preparation by obtaining a mono layer of particles avoiding particle clusters while maintaining the structure of fragile particles.
This dry powder disperser is easy to use and allows the user to extract the best results in combination with the ParticleMetric software.

The unique combination of ParticleMetric and the Nebula I allows the user to gather and analyze particle size and morphology data.

TARGET MARKETS FOR PARTICLEMETRIC

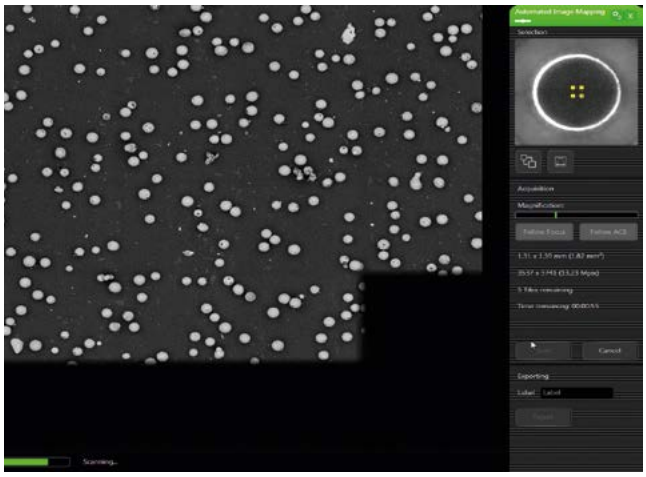
- Cosmetics and personal care
- Food
- Agrochemicals
- Pharmaceuticals
- Ceramics
- Powder and surface coatings
- Particle based fillers
- Environmental particulates
- Filter/sieve companies

NEBULA I SPECIFICATIONS

Powder Size Range	0.1 – 1500 µm
Dispersion Vacuum Range	0 – 0,8 Bar
Pressure Setting Precision	0,05 Bar
Dimensions & Weight	
Dimensions	390(w) x 210(d) x 350(h) mm, 8.5 kg
Diaphragm vacuum pump	145(w) x 220(d) x 213(h) mm, 4.5 kg

OPTIONS

Phenom Pro Suite



Phenom Automated Image Mapping

PRO SUITE

Pro Suite is an optional application system that has been developed to further enhance the capabilities of the Phenom system. Pro Suite enables maximum information to be extracted from images obtained on the Phenom imaging system. It offers multiple solutions to specific application needs. Pro Suite contains standard applications such as Automated Image Mapping and Remote User Interface.

Optional applications are ParticleMetric, FiberMetric, 3D Roughness Reconstruction and Elemental Mapping & Line Scan. Virtually all the properties of a sample can be revealed using the Phenom desktop SEM in combination with Pro Suite.

AUTOMATED IMAGE MAPPING

The Automated Image Mapping (AIM) application enables users to automatically collect multiple images with a large field of view on a high-resolution image map.
After an area has been defined in the overview, Automated Image Mapping scans the area at the desired resolution and number of images.

The images are tiled to one large overview which can be stored and navigated for detailed observation. All images can be stored separately for image analysis or as a reference database.

PRO SUITE SPECIFICATIONS

SYSTEM	Automated collection of images Real-time remote control Intuitive single-page user interface Standard applications included: Automated Image Mapping & Remote User Interface
OPTIONAL	
3D ROUGHNSS RECONSTRUCTION	Based on "shape from shading" technology, no stage tilt required Fast reconstruction
ELEMENTAL MAPPING	X-ray analysis software for Phenom ProX Precise spot mode analysis Optional: Elemental Mapping & Line Scan to reveal distribution of elements
FIBERMETRIC	Automated fiber analysis

AIM MAIN BENEFITS

- Large field of view (FOV) images (min. magnification 31.8x, max. FOV 8.07 mm)
- Extremely high-resolution complete sample image maps
- Automated procedure for collecting all sample image data
- Intuitive single-page user interface
- Creation of low-magnification overviews
- Automated acquisition for FiberMetric

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PHENOMWORLD