THROUGH YOUR WORLD IN SECONDS.

PHENOM™
THE PERFECT COMBINATION

FEI COMPANY™

‘The perfect combination’.

THROUGH YOUR WORLD IN SECONDS

How do you stay at the forefront of your field and remain competitive in a world where critical dimensions are now in the nanometer range? At FEI, we have consistently helped organizations break new ground by providing the highest resolution imaging and analytical tools. Now we are proud to introduce Phenom: a unique imaging tool that brings a new dimension to microscopy. Never before could you get this level of image quality, resolution and sample throughput at such a low price point. Phenom makes high-end imaging practical and affordable for all.

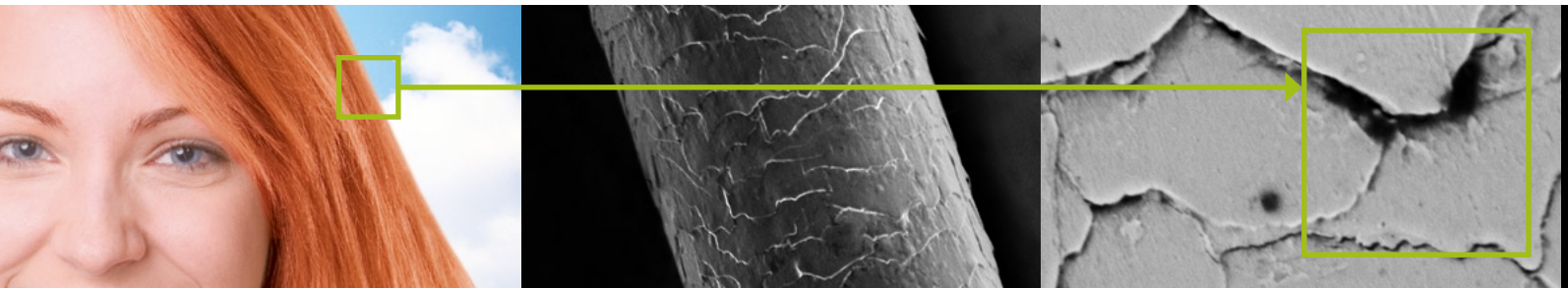
The gap between optical and electron microscopy

Today, your choice of imaging tools is limited. Electron microscopy enables you to view morphology on the submicron and nano scale. However, it requires a significant investment and highly trained operators. Optical microscopes are affordable, widely used, and produce fast results for routine imaging tasks. Unfortunately, they can only resolve to the micron level and have a limited depth of focus and contrast. For the first time, Phenom closes this gap and offers you the best of both worlds by combining light optical and electron optical technologies in one integrated, easy-to-use microscope system.

Phenom: it's fast and easy

Phenom takes you through your world in seconds – from millimeters to the nano scale, and it's so easy to operate that everyone can use it. Phenom will do for microscopy what personal computers did for office efficiency. It is the ideal tool for aiding researchers in their search for next-generation products or helping teachers present scientific concepts more easily. Phenom's superb image quality will help create new ways to ramp up production faster and speed the time for root cause analysis. Easy to use for anyone, Phenom provides an exciting leap in teaching methods with an engaging and interactive design that creates a truly effective learning experience.

'Imagine the possibilities.
See them with Phenom'.



Phenomenal results

- Sits on a table top
- 20x to 20,000x magnification
- Millimeter to nano scale imaging
- Easy for everyone to operate
- High throughput
- Low price per image and operating costs
- No special facility requirements

THE PERFECT COMBINATION FOR YOUR APPLICATION

Metallurgical applications

Phenom takes metallurgical imaging to a new level of clarity. It can be used to perform microstructural analysis of metals to identify variances that occur after heat treatment, as well as to determine composition and stress distribution. Phenom's optical color image can be used as a reference image. For failure analysis of 3D objects, Phenom's large depth of focus can show the fracture origin and fatigue features.

Integrated Learning

Phenom brings the science of the real world into your classroom and laboratory in a way that's never been possible before. Now you can see diatoms, bacteria, cells, insects, pollens, metallurgy, forensics, minerals – and anything else microscopic – with perfect clarity. Phenom stimulates the development of investigative techniques, active learning and scientific inquiry skills by giving students an interactive, dynamic and fun learning tool.

Pharmaceutical industry

As critical dimensions continue to decrease in the pharmaceutical and chemical industries, optical microscopes no longer have adequate resolving power to image these structures. With an ultimate resolution of 30 nm, Phenom will clearly identify and compare the morphology of fine particles or deposits for new formulations.

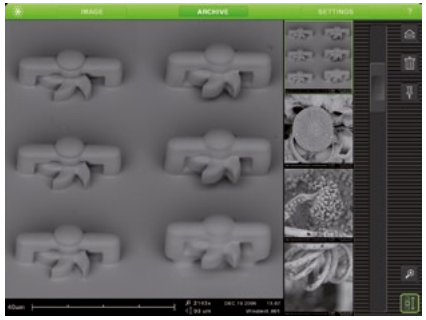
Manufacturing process and quality control

Phenom's high resolution imaging makes it easier to detect errors in process and quality control checks. Its large depth of focus enables technicians to image new materials and compounds that are not visible with optical microscopes. As manufacturers move to smaller dimensions, Phenom's images can be used to maintain narrower processing parameters.

Research labs

With its ease of use and low cost of ownership, Phenom is an ideal tool for research environments. Technologists can use its resolving power and large depth of focus to clearly visualize the characteristics of new materials in their efforts to develop innovative products and systems.

Main screen



Archive screen

Settings screen

Phenom quickly pays for itself

The new Phenom has a fast Return on Investment (ROI) because of its economical price, comparable with medium class light microscopes, whereas its performance is way beyond.

For a fraction of the cost of outsourcing electron optical imaging, a company can bring high resolution imaging in-house that everyone can use.

System details

- Magnification range 20x – 20,000x
- Dimensions Imaging module 286 x 566 x 495mm – 50kg
- Touch screen controlled
- Image options – JPEG, TIFF, BMP in 456^2, 684^2, 1024^2, 2048^2 pixels
- Sample load time <30 seconds

BRILLIANT IMAGES, HIGH THROUGHPUT, EASY TO USE

Superb image quality

The Phenom's innovative user interface and intuitive touch screen control allow superb quality images to be produced with minimal operator training. A unique electron optical design reduces the complexity normally associated with electron microscopes to a level comparable to that of a light microscope.

Fast sample preparation

The Phenom is designed to handle a wide range of samples with minimal preparation. Samples are mounted onto a unique sample cup that can accommodate samples up to 25 mm (dia) x 30 mm (thick).

Instant sample loading

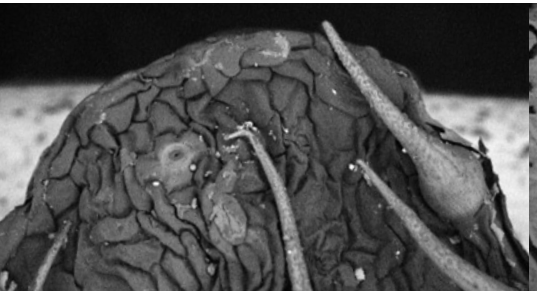
Samples are loaded instantly with Phenom's patented vacuum technology. Simply insert the sample cup, close the door and Phenom is ready to go. The time to picture is just seconds away.

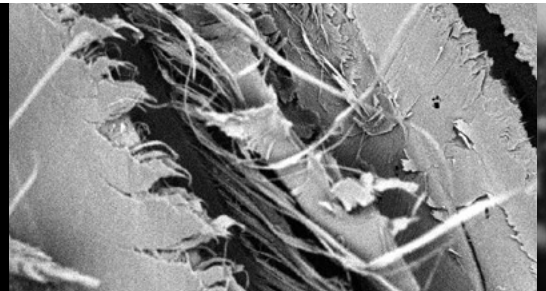
Never-lost navigation

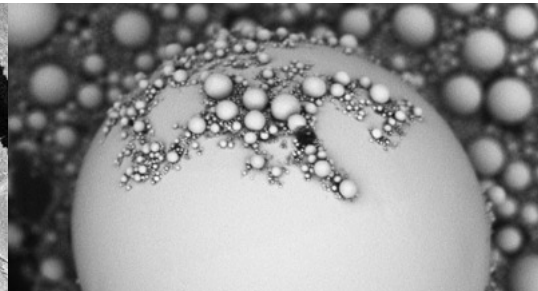
You always know where you are on the sample with Phenom's never-lost navigation. On-screen insets provide a clear overview of the sample. Overviews of the optical and electron optical images provide clear reference points at all times. The sample can be easily moved by simply touching the feature of interest on the screen.

Archiving images

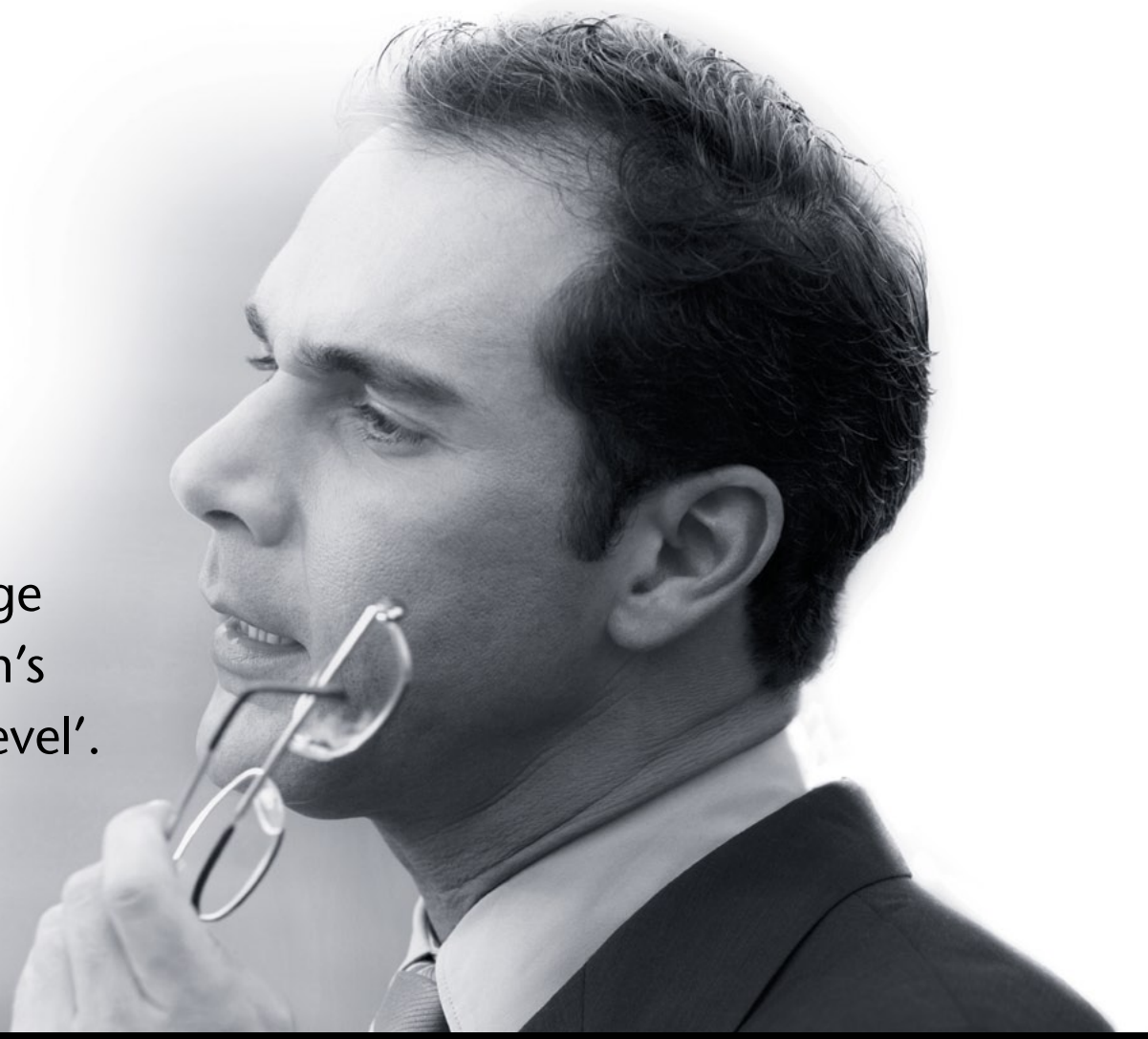
Images are saved on a USB memory stick for off-line analysis, measurements and distribution. These saved images can be viewed on the archive screen and digitally zoomed by another 4 times. Just like a digital camera, saved image management is straightforward and intuitive.







‘The ease of use and superb image quality has brought our team’s capabilities to the next level’.



FEI COMPANY

FEI is a leading supplier of ion- and electron beam microscopes to a broad range of nanotechnology markets. Nanotechnology is the science of characterizing, analyzing and fabricating things smaller than 100 nanometers (a nanometer is one billionth of a meter).

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