



# Phenom™ proX

## Most advanced all-in-one system

The Phenom proX desktop scanning electron microscope is the ultimate all-in-one imaging and X-ray analysis system. All Phenom-World products are intuitive to use, fast to create results and built to high quality standards. These core principles have been used to develop and create the Phenom proX spectroscopy system. With the Phenom proX desktop SEM, sample structures can be physically examined and their elemental composition determined.

### Phenom proX: one system, all data

Viewing three-dimensional images of microscopic structures only solves half the problem when analyzing samples. It is often necessary to collect more than optical data to be able to identify the different elements in a specimen. This is accomplished in the Phenom with a fully integrated and specifically designed EDS detector. EDS is an analytical technique that analyzes X-rays generated by the bombardment of the sample by an electron beam.

By expanding the pro series product line in a step-by-step approach, Phenom-World is able to maximize the use of the system and address specific market needs and applications.

### System configuration

EDS elemental analysis is fully embedded into the Phenom proX system. X-ray detector and control software are fully integrated in one package.

The imaging operation of the Phenom proX system is fast and easy, thanks to a touch screen for controlling all imaging functions. The imaging performance for any sample is further improved by a new state-of-the-art column design and further optimized user interface software.

### The solution for any microanalytical challenge

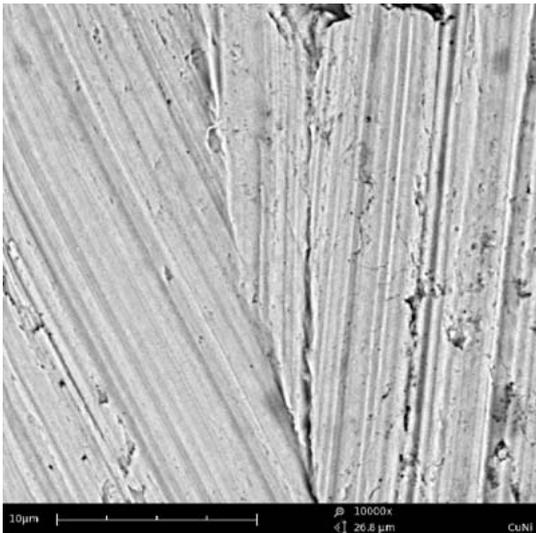
- X-ray analysis answers all “What is it made of?” questions.
- X-ray analysis is important to confirm the elemental components of a sample.
- X-ray analysis is important to monitor a production process that needs to create a consistent material mix or specific consistence of materials, such as the fabrication of alloys and ceramics.
- X-ray analysis is important when imaging a sample from production reveals contamination with an unknown substance or the inclusion of unknown particles. Analyzing these particles with the Phenom proX will reveal their composition and potential origin.

Analysis has become as easy as imaging. Switching between software packages or computers is a thing of the past with Phenom-World’s all-in-one X-ray analysis capability.

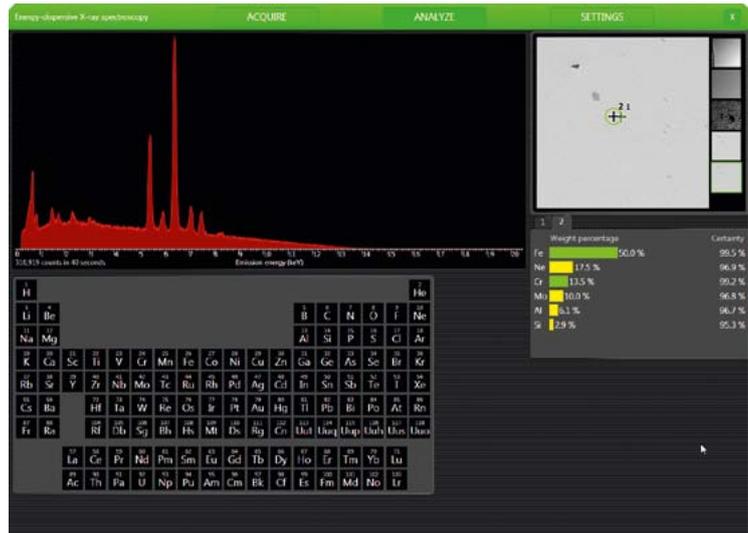
**Phenom-World products are known to be of high quality, fast, and easy to use. The Phenom proX completes the set of system capabilities for any industrial, development or research process.**



Phenom proX provides  
the fastest time to seamless,  
worry free imaging and analysis.



SEM image of stainless steel.



EDS User Interface.

## EDS Specifications

<b>Detector</b>	- Silicon Drift Detector (SDD) - Thermoelectrically cooled (LN <sub>2</sub> free)
<b>Detector active area</b>	- 25 mm <sup>2</sup>
<b>X-ray window</b>	- Ultra-thin Silicon Nitride (Si <sub>3</sub> N <sub>4</sub> ) window allowing detection of elements B to Am
<b>Energy resolution</b>	- Mn Kα ≤ 140 eV
<b>X-ray processing capabilities</b>	- Multi-channel analyzer with 2048 channels at 10 eV/ch - Max. input count rate: 300,000 counts per second
<b>Hardware integration Software</b>	- Fully embedded - Integrated in Phenom ProSuite - Auto-peak ID - Column and stage control - Iterative strip peak deconvolution - Advanced point-and identify element identification, confirmation and verification mode - Confidence of analysis indicator

## Imaging Specifications

<b>Imaging modes</b>	- <b>Light optical</b> - <b>Electron optical</b>
	- Magnification range: 20-120x - Magnification range: 80-45,000x - Resolution: 25 nm at 10 kV - Long-lifetime thermionic source (CeB <sub>6</sub> ) - 5, 10 and 15 kV imaging and analysis mode