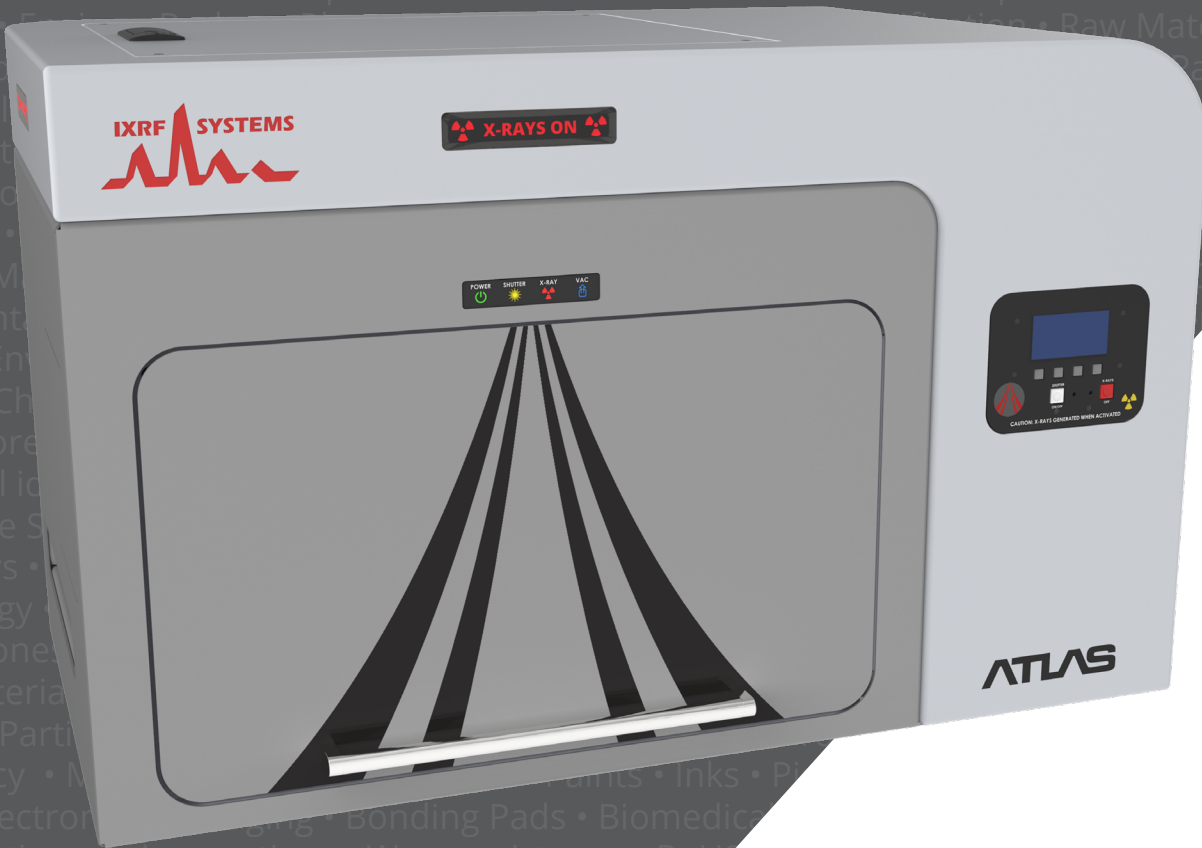




**ATLAS**  
**μXRF**



**UNPARALLELED MICRO-XRF  
PERFORMANCE**



# ATLAS: RAISING THE STANDARD FOR MICRO-XRF

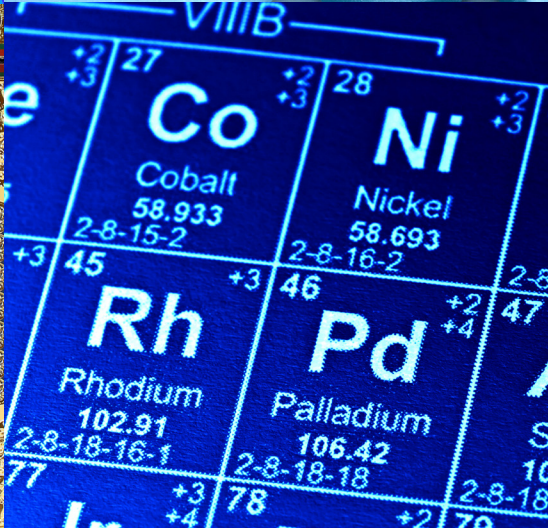
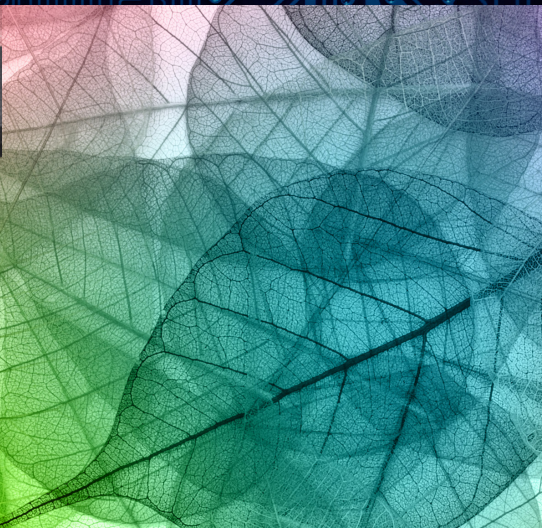
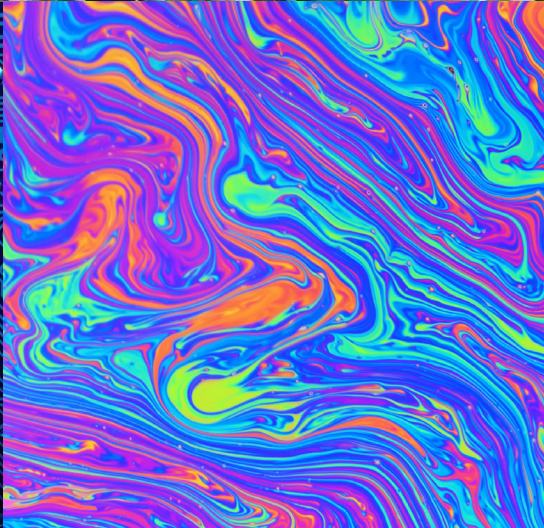
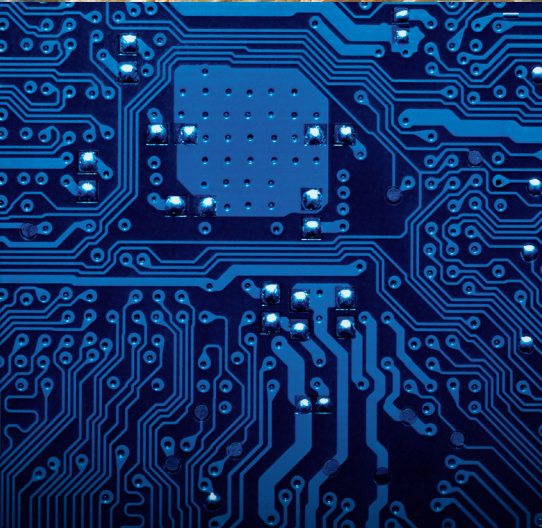
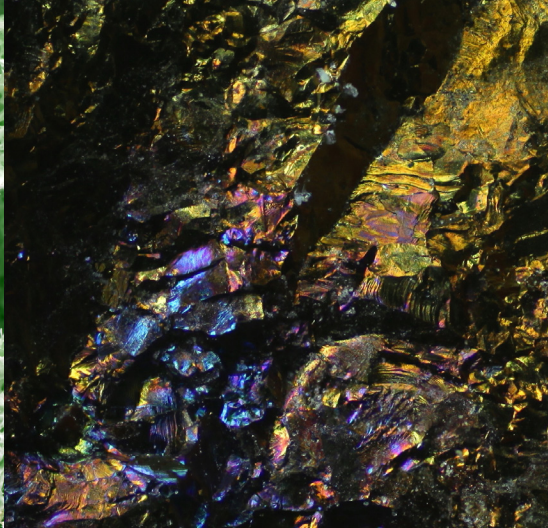
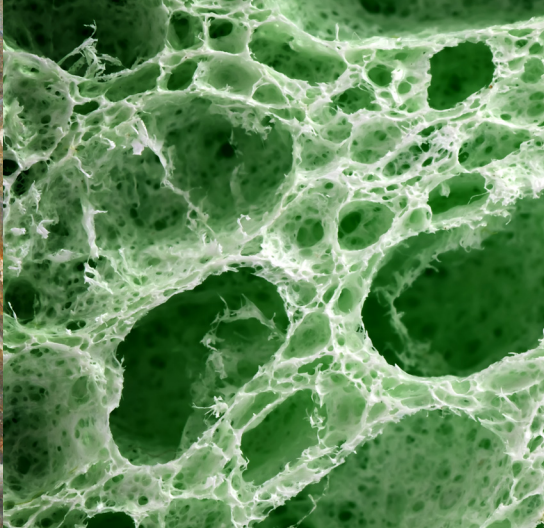


The ATLAS Micro-XRF is the very latest in small spot spectrometer engineering. Made with a myriad of markets in mind, it truly is the most versatile Micro-XRF instrument. Solids, liquids, particles, powders; small and large, as well as rough or polished, nearly any sample can be accommodated.

Where other micro-xrf products are deficient, ATLAS was designed to excel. ATLAS leads the industry in virtually every major specification category from the largest chamber and detector active area size, to the longest mapping travel and smallest micro-spot.

Hardware specifications are only half of the ATLAS Advantage™. The ATLAS software platform is simply unsurpassed. The functional, flexible, and feature-rich software suite guarantees unprecedented production. ATLAS is not just an instrument, it is the Micro-XRF roadmap of the future.







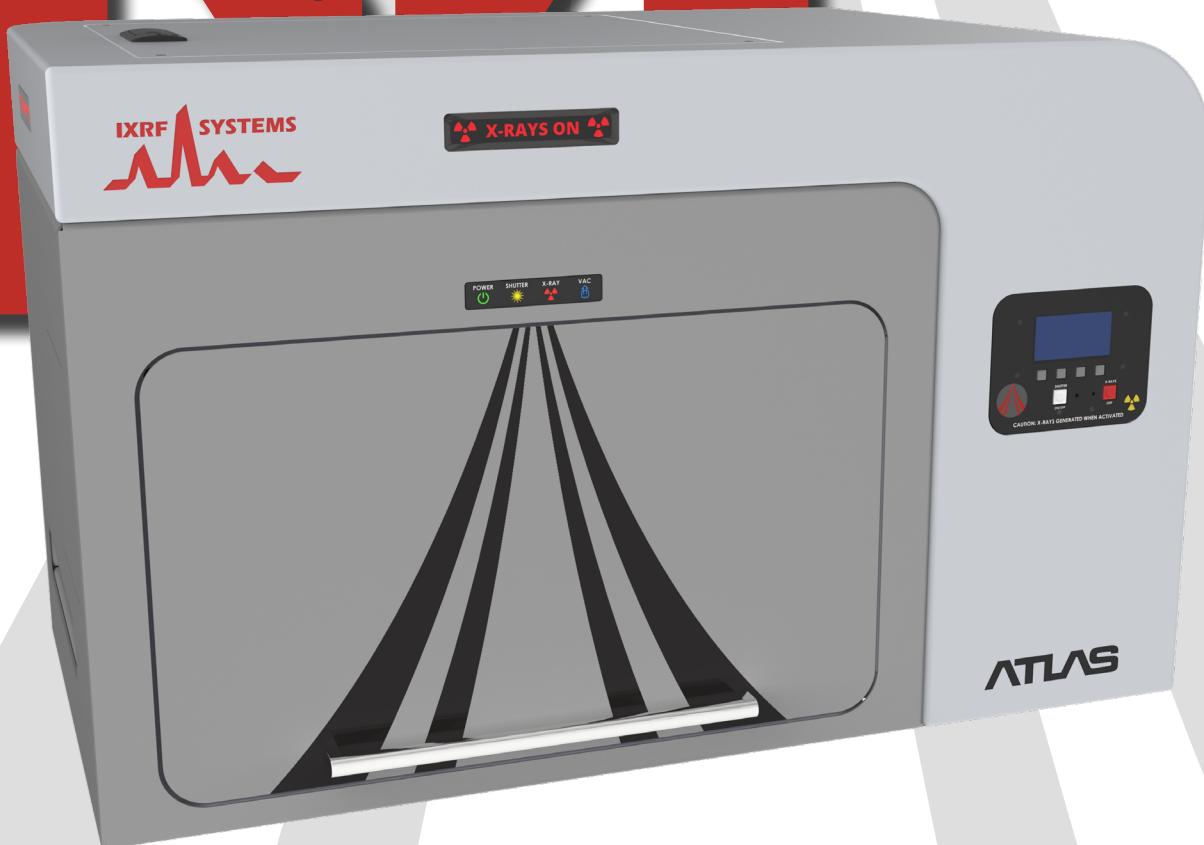


The ATLAS™ X Micro-XRF spectrometer ( $\mu$ XRF) from IXRF Systems introduces a new world of x-ray mapping and automation. The ATLAS™ X boasts the largest chamber volume and SDD detection area ( $150\text{mm}^2$ ) well as the smallest spot size ( $5\mu\text{m}$ ) available on the market. Additionally, the ATLAS™ X is complimented by the most comprehensive software suite including multi-point analysis, unattended automation, in-depth feature/image analysis, unprecedented mapping and reporting features, and much more. Models may be operated under air or vacuum as well as Helium flush for liquids and light element analysis.

## PRODUCT FEATURES

- 1 Spot Size down to 5 microns with anti-halo optic
- 2 SDD Detector Active Area up to  $150\text{mm}^2$
- 3 Larger Chamber Volume
- 4 50kv/50 watt tube
- 5 Multipoint/Multi-Area Automation & Mapping
- 6 Air, Vacuum, Helium for Solids, liquids, and powders





The ATLAS™ Micro-XRF spectrometer ( $\mu$ XRF) from IXRF Systems introduces a new world of x-ray mapping and automation. The ATLAS™ boasts the largest chamber volume and detection area (150mm<sup>2</sup>) as well as the smallest spot size (5 $\mu$ m) available on the market. Additionally, the ATLAS™ is complimented by the most comprehensive software suite including multi-point analysis, unattended automation, in-depth feature/image analysis, unprecedented mapping and reporting features, and much more. Instruments may be operated under air or vacuum as well as Helium flush for liquids and light element analysis.

## PRODUCT FEATURES

- ① Spot Size down to 5 microns with anti-halo optic
- ② SDD Detector Active Area up to 150mm<sup>2</sup>
- ③ Larger Chamber Volume
- ④ 50kv/50 watt tube
- ⑤ Multipoint/Multi-Area Automation & Mapping
- ⑥ Air, Vacuum, Helium for Solids, liquids, and powders



# ATLAS

## HARDWARE

### Excitation

- Spot size  $\geq 5\mu\text{m}$  with polycapillary optics
- 50kV/50W/1mA Rh target (others available) x-ray tube
- Filter wheel with up to 8 filters positioned before the focusing optic
- Optional use of two x-ray tubes for different element ranges, targets, and spot sizes



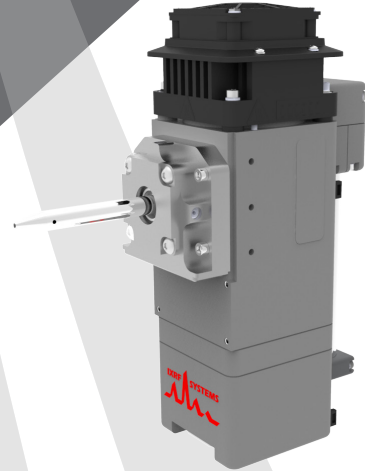
*Smallest Spot*



*Hottest Tube*

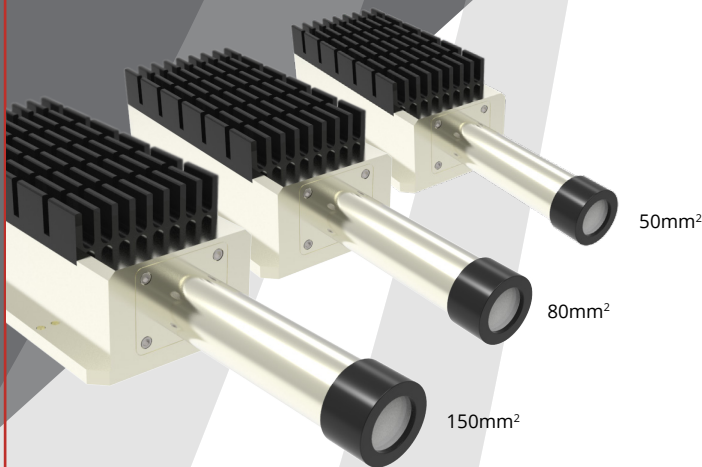


*Most Filters*



### Detectors

- 50mm<sup>2</sup> to 150mm<sup>2</sup> for increased speed and reduced acquisition times
- $\leq 130\text{-}145\text{eV}$  resolution



*Largest Active Area*

### Stages

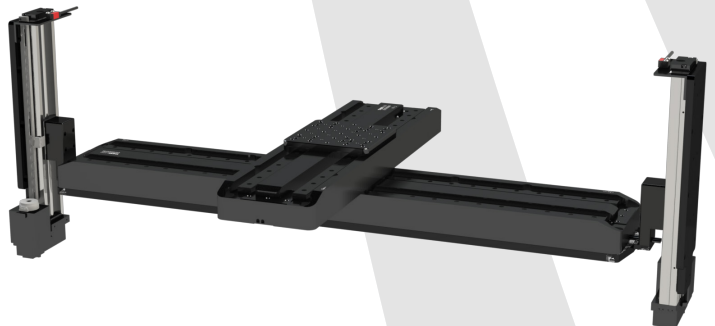
- Motorized XYZ
- Speeds up to 300mm/s (Map Acquisitions  $\leq 1\text{ms/pixel}$ )
- Accuracy less than 1 $\mu\text{m}$



*Fastest Stage*



*Highest Accuracy*





## Sample Types and Conditions

- Air, Vacuum, and Helium
- Vacuum ready in under one minute
- Solids, Liquids, Powders, and Particles

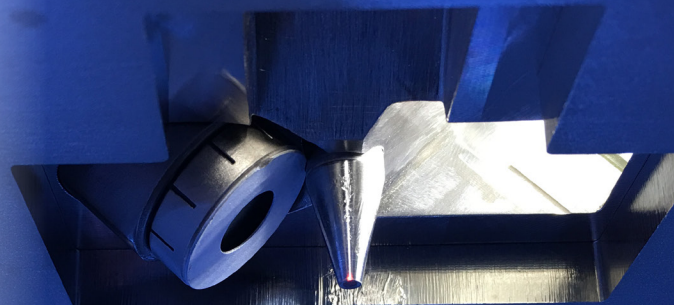


*Quickest Evac Condition*



## Chamber and Geometry

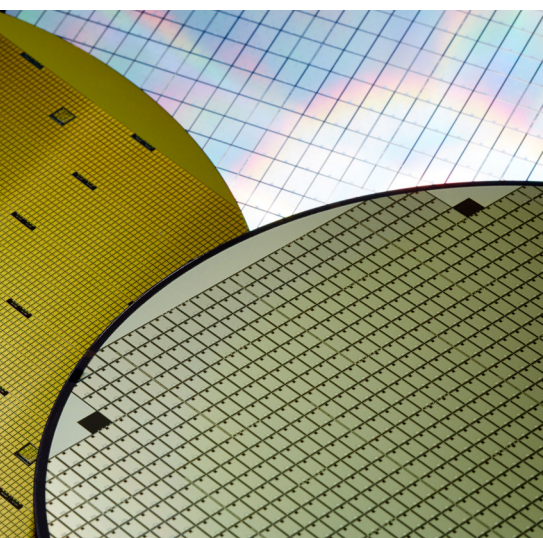
- Chamber size 508x457x254mm
- Mapping Travel up to 250x200mm  
(Total travel up to 320x320x120mm)
- Top-down perpendicular geometry from tube to sample



*Most Volume*



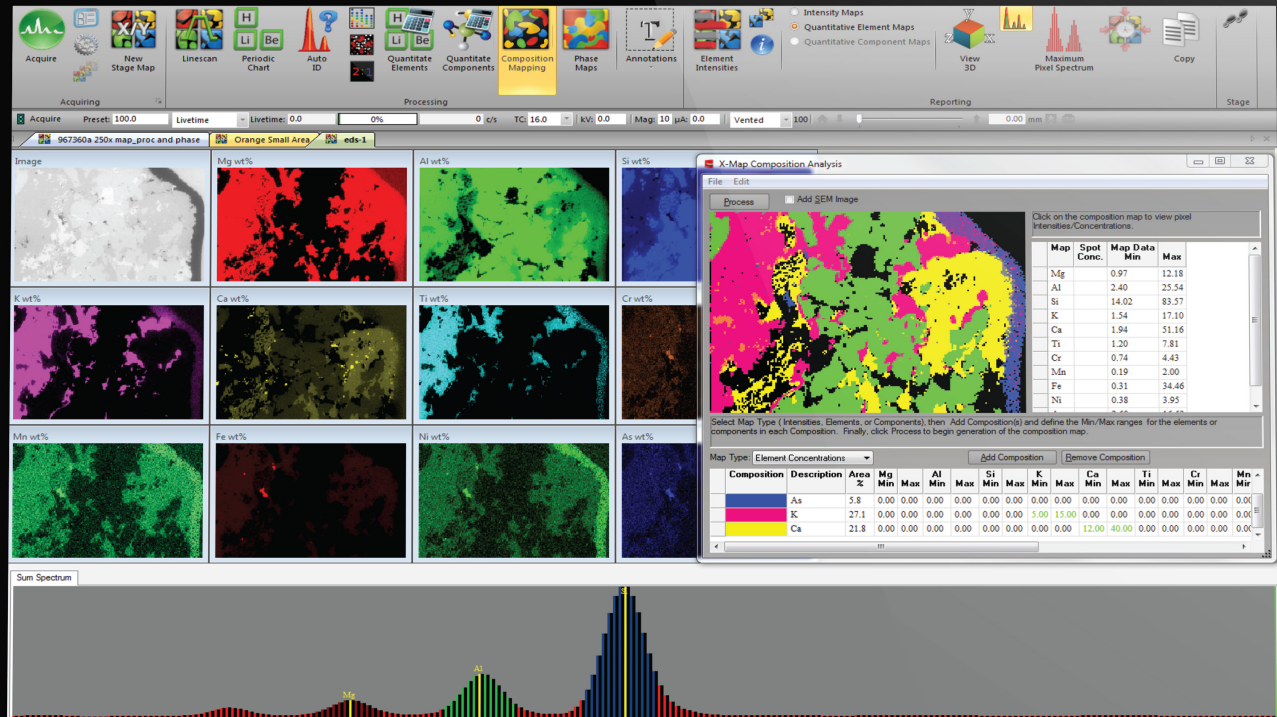
*Longest Travel*





# ATLAS

SOFTWARE



## Spectral Collection & Quantitation

- One-click acquisition and automatic peak identification
- Customizable identification, labeling, processing, and quantification
- Scrolling periodic chart
- Drag and drop overlay
- Automatic overlap correction, sum/escape peak removal, background correction, and linear/non-linear deconvolution
- Fundamental Parameters (FP) and Quantitative Match
- Material classification databasing

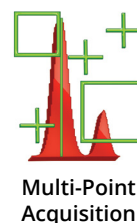
## Imaging

- Multi-Point automated analysis directly from image
- Morphological processing for rapid feature size measurements
- Image stitching and montage
- Segmentation and feature segregation



## Mapping and Linescans

- Simultaneous acquisition of 35 elements
- 4096 x 4096 maximum map resolution (4096 linescan resolution)
- Stored spectral data for every pixel
- Live spectrum display during acquisition
- Single or multiple map acquisition from image; overview or spot camera
- Map stitching and montage
- Extract spectra from map: point, area, freehand
- Create linescan from map
- Mouse-over view intensities and concentrations
- Phase Analysis
- Multi-compositional map display of element and compound ranges
- Overlay linescans on image



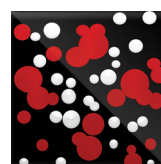
Multi-Point Acquisition



LineScans



RoboStage



Particle Analysis & Morphology



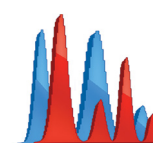
Component Calculator



Multi-Compositional Mapping



Phase Analysis



Spectral Acquisition



Thin Film

## Specialty and Automation

- Multilayer thin film and coatings analysis up to 10 layers
- ASTM E2926-13 Glass Analysis
- Track, store, and recall all stage locations and images



Stitching & Montage



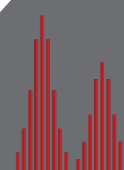
View Intensities/Concentrations



Custom Reporting & Templates



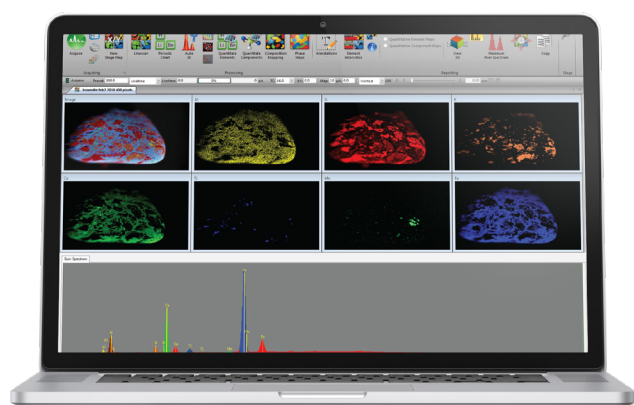
3D



Maximum Pixel Spectrum



Segmentation



*Custom Software Design by Request*



# ATLAS

## TECHNICAL SPECIFICATIONS

### ATLAS X TECHNICAL SPECIFICATIONS

<b>Sample Types</b>	Solids, Liquids, Particles, Powders
<b>Sample Chamber Size</b>	37x26x14in (950x650x365mm)
<b>Measurement Media</b>	Air, Vacuum, He
<b>Excitation Source</b> Primary Secondary	50W / 50kV / 1mA 4W-12W / 40kV-60kV / 0.4mA-1mA
<b>Excitation Parameters</b> Target Materials Tube Spot Size Filters	Polycapillary or Aperture Collimation Rh (others available) 50kV, 50W, 1mA (optional 2nd tube) ≥5-1000μm Up to 8
<b>Geometry</b>	Top-down Beam (Perpendicular)
<b>Detector (s)</b> Resolution Active Area	SDD (Si-Pin upon request) 130-145eV 50-150mm <sup>2</sup>
<b>Stage</b>	Motorized X,Y,Z (available) Up to 600x300mm ranges available
<b>Sample Travel</b> Total Mapping Map Scan Speed Sample Speed	600x300x150mm 400x300mm 1-3ms/pixel up to 300mm/second
<b>Sample View</b>	Three Sample Positioning and Analysis Cameras
<b>Instrument Control</b>	PC; Windows 10 Complete control of parameters, filters, cameras, optical microscopes, sample illumination and positioning, and measurement media
<b>Power</b>	100-240 V, 50/60 Hz
<b>Certifications</b>	CE, RoHS, Radiation
<b>Element Range</b>	Na-U
<b>Dimensions</b>	67x31x64in (1690x787x1630mm)
<b>Quality and Safety</b>	CE certified RoHS, Radiation < 1 μSv/h



### ATLAS M TECHNICAL SPECIFICATIONS

<b>Sample Types</b>	Solids, Liquids, Particles, Powders
<b>Sample Chamber Size</b>	20x18x10in. (508x457x254mm)
<b>Measurement Media</b>	Air, Vacuum, He
<b>Excitation Source</b>	Primary 50W / 50kV / 1mA Secondary 4W-12W / 40kV-60kV / 0.4mA-1mA
<b>Excitation Parameters</b>	Polycapillary or Aperture Collimation Target Materials Rh (others available) Tube 50kV, 50W, 1mA (optional 2nd tube) Spot Size $\geq 5\text{-}1000\mu\text{m}$ Filters Up to 8
<b>Geometry</b>	Top-down Beam (Perpendicular)
<b>Detector (s)</b>	SDD (Si-Pin upon request) Resolution 130-145eV Active Area 50-150mm <sup>2</sup>
<b>Stage</b>	Motorized X,Y,Z (available) 25x25mm up to 320x320mm ranges available
<b>Sample Travel</b>	Total 320x320x120mm Mapping 220x200mm Map Scan Speed 1-3ms/pixel Sample Speed up to 300mm/second
<b>Sample View</b>	Three Sample Positioning and Analysis Cameras
<b>Instrument Control</b>	PC; Windows 10 Complete control of parameters, filters, cameras, optical microscopes, sample illumination and positioning, and measurement media
<b>Power</b>	100-240 V, 50/60 Hz
<b>Certifications</b>	CE, RoHS, Radiation
<b>Element Range</b>	Na-U
<b>Dimensions</b>	35x22x22in (890x560x560mm)
<b>Quality and Safety</b>	CE certified RoHS, Radiation < 1 $\mu\text{Sv/h}$





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